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TEST-26

TEST BOOKLET

Test Booklet Series

C

GENERAL STUDIES (P) 2022 – Test – 3495

Time Allowed: Two Hours **Maximum Marks: 200**

INSTRUCTIONS

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS BOOKLET DOES **NOT** HAVE ANY UNPRINTED OR TURN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.

2. ENCODE CLEARLY THE TEST BOOKLET SERIES **A, B, C** OR **D** AS THE CASE MAY BE IN THE APPROPRIATE PLACE IN THE ANSWER SHEET.

3. You have to enter your Roll Number on the Test Booklet in the Box provided alongside. **Do NOT** write anything else on the Test Booklet.

4. This Test Booklet contains **100** items (Questions). Each item is printed in **English & Hindi.** Each item comprises four responses (answers). You will select the response which you want to mark on the Answer Sheet. In case you feel that there is more than one correct response with you consider the best. In any case, choose **ONLY ONE** response for each item.

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5. You have to mark all your responses ONLY on the separate Answer Sheet provided. See direction in the answers sheet.

6. All items carry equal marks. Attempt all items. Your total marks will depend only on the number of **correct responses** marked by you in the answer sheet. For **every incorrect** response **1/3rd of the allotted marks** will be deducted.

7. Before you proceed to mark in the Answer sheet the response to various items in the Test booklet, you have to fill in some particulars in the answer sheets as per instruction sent to you with your Admission Certificate.

8. After you have completed filling in all responses on the answer sheet and the examination has concluded, you should hand over to Invigilator only the answer sheet. You are permitted to take away with you the Test Booklet.

9. Sheet for rough work are appended in the Test Booklet at the end.

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1. Which of the following are principles of Natural Justice?

1. No one should be made a judge in his own cause.
2. No one should be condemned unheard.
3. The Right to Rebut Adverse Evidence.

Select the correct answer using the code given below.

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

2. Which of the following Buddhist literature were written in the Sanskrit language?

1. Buddhacharita
2. Mahavamsa
3. Lalitvistara

Select the correct answer using the code given below.

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

3. In the context of New Development Bank, consider the following statements:

1. The membership of the New Development Bank is open to the members of the United Nations.
2. All present members of the New Development Bank hold an equal subscribed capital in the bank.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

4. Consider the following statements:

1. The twinkling of a star is due to the internal reflection of starlight.
2. The apparent shift in the position of the sun during sunrise is because of atmospheric refraction.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

5. Consider the following statements regarding Angel Funds:

1. Angel funds are a sub-category of venture capital funds with a strict focus on startups.
2. Angel funds in India are regulated by the Reserve Bank of India.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

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6. Tibetans thrive at altitudes where oxygen levels are up to 40 percent lower than at sea level. Breathing air that thin would cause most people to get sick, but in which of the following ways have their bodies evolved for changes in their body chemistry?

(a) Their bodies raise their levels of hemoglobin all the time.
(b) They have longer limbs and slender bodies.
(c) They use oxygen far more efficiently without the need for extra haemoglobin.
(d) They have lesser lung capacity than people living in the plains.

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7. Consider the following statements with respect to the Sunga dynasty:

1. Under the influence of Buddhism, performing Brahmanical rituals like Ashvamedha declined during Sunga rule.
2. Kalidasa's Malavikagnimitra was based on the love story of a Sunga ruler.
3. Sunga rulers promoted the growth of the Sanskrit language.

Which of the statements given above are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

8. Consider the following statements regarding Gharials:

1. They are listed as Vulnerable by the IUCN Red List of threatened species.
2. They can be found in north Indian rivers like the Ganga, Yamuna, Chambal and their tributaries.
3. Like tigers are the topmost predators in a forest, gharials are the topmost predators in a river.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 and 3 only
(c) 3 only
(d) 1, 2 and 3

9. The development of RTS, S malaria vaccine is a major milestone amid Covid gloom. In this context, consider the following statements:

1. It is the first malaria vaccine to provide complete protection against malaria in young children.
2. It is based on recombinant protein-based technology.
3. It is designed to prevent the parasite from infecting the liver

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 3 only
(d) 1, 2 and 3

10. What is Tundra satellite system, sometimes seen in the news?

(a) An American anti-missile system
(b) An Israeli radar satellite system
(c) India's indigenous anti-missile satellite programme
(d) A constellation of Russian Missile Early Warning Satellites

11. With reference to the UV index, consider the following statements:

1. The UV index helps to estimate ultraviolet radiation present at ground level.
2. UV index was developed by WHO, the UNEP, and the World Meteorological Organization.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

12. The 'Algo Trading' recently seen in the news is related to:

(a) Sale and Purchase of agricultural commodities in the government trading houses
(b) Real Estate investments for shorter period in order to make quick gains
(c) Sale and Purchase of government securities through Retail Direct Gilt account
(d) Orders generated at superfast speed by the use of advanced mathematical models that involve automated execution of trade

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13. What is common to the aquatic plant species vallisneria, najas and utricularia, sometimes seen in the news?

(a) These are weed plants posing threat to paddy cultivation
(b) These are Genetically Modified (GM) plants used for water purification.
(c) These are nutrient rich hydroponic plants used in manufacturing sedatives.
(d) These are the plants found floating on the surface of water bodies used to produce bio-fuels.

14. Consider the following statements about Soil Health Card:

1. It is a printed report card issued to farmers every year indicating the status of their soil.
2. It provides crop-wise recommendations on the appropriate dosage of fertilizers to be applied.
3. It will help in reducing the import bills of fertilizers.

Which of the statements given above is/are correct?

(a) 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1 and 2 only

15. With reference to the borrowed features of the Indian Constitution, consider the following pairs:

Countries		***Borrowed Features***
1. Australia	:	Joint-sitting of the two Houses of Parliament
2. USA	:	Advisory jurisdiction of the Supreme Court
3. Ireland	:	Election of members of Rajya Sabha

Which of the pairs given above is/are correctly matched?

(a) 1 only
(b) 1 and 2 only
(c) 2 only
(d) 1 and 3 only

16. With reference to the Sustainable Sand Management Guidelines 2016, consider the following statements:

1. District Survey Report (DSR) is prepared only after the grant of the mining lease.
2. River bed mining operation is not allowed in the monsoon period.
3. Mining of Sand from Agricultural Fields is completely prohibited to protect food security in India.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 only
(c) 3 only
(d) None

17. Which of the following are the sources of Ammonia (NH_3) emissions?

1. Agriculture
2. Animal Husbandry
3. Catalytic converters in petrol cars
4. Volatilization from soils and oceans

Select the correct answer using the code given below.

(a) 1 and 2 only
(b) 3 and 4 only
(c) 1, 2 and 3 only
(d) 1, 2, 3 and 4

18. Under whose leadership Krishak Praja Party in 1936 campaigned for the abolition of the zamindari system in Bengal?

(a) Abul Kasem Fazlul Huq
(b) Chittaranjan Das
(c) Bidhan Chandra Roy
(d) Ali Akbar Khan

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19. Consider the following pairs:

Ashokan pillar		***Crowning animal***
1. Sarnath	:	Four lions
2. Lauriya-Nandangarh	:	Single lion
3.Rampurva, Champaran	:	Horse

Which of the pairs given above is/are correctly matched?

(a) 1 and 2 only
(b) 2 only
(c) 1, 2 and 3
(d) 1 only

20. Which of the following best describes the *Padhe Bharat* campaign?

(a) Campaign of the Kailash Satyarthi Children's Foundation to educate children rescued from forced labour.
(b) Campaign focussed on developing research culture amongst the college students.
(c) 100 day book reading campaign for students upto class 8th.
(d) Initiative of the NITI Aayog to promote education for specially abled children.

21. With reference to the Climate Equity Monitor, consider the following statements:

1. The Climate Equity Monitor aims to monitor the global performance of annexure-1 parties under the UNFCCC.
2. The dashboard has been launched by the Intergovernmental Panel for Climate Change in collaboration with the World Wide Fund for Nature.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

22. Consider the following statements regarding the Zero Shadow Day:

1. It occurs when the sun is at its highest point in the sky in all the regions between the Tropic of Cancer and the Tropic of Capricorn.
2. It occurs once every year.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

23. Which of the following Fundamental Rights are available to enemy aliens?

1. Equality before the law and equal protection of the law
2. Protection of life and personal liberty
3. Prohibition of traffic in human beings and forced labor
4. Prohibition of employment of children in factories etc.

Select the correct answer using the code given below.

(a) 2, 3 and 4 only
(b) 1, 3 and 4 only
(c) 2 only
(d) None

24. Which of the following organisations has recently carried out a first-of-its-kind district-level climate vulnerability assessment, or Climate Vulnerability Index (CVI) in India?

(a) NITI Aayog
(b) Ministry of Environment, Forest and Climate Change
(c) World Wide Fund for Nature, India
(d) Council on Energy, Environment and Water

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25. Which of the following statements is/are correct regarding Finance Commission?

1. The qualifications of its members are mentioned in the Constitution.
2. It has all the powers of a civil court under the Code of Civil Procedure, 1908.
3. Its members hold office for five years and are not eligible for reappointment.

Select the correct answer using the code given below.

(a) 1 and 2 only
(b) 2 only
(c) 1 and 3 only
(d) 2 and 3 only

26. Consider the following statements:

1. Edge computing is preferred over cloud computing in remote locations.
2. Edge computing has high latency than cloud computing.
3. Edge computing network reduces the amount of data that travels over the network

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 3 only
(d) 1 and 3 only

27. Which of the following local winds blow over the Mediterranean region?

1. Tramontana
2. Gregale
3. Sirocco
4. Mistral

Select the correct answer using the code given below.

(a) 1 and 2 only
(b) 1 and 3 only
(c) 3 and 4 only
(d) 1, 2, 3 and 4

28. Consider the following statements about the Office of Speaker during the British-India:

1. Prior to 1921, the Governor-General of India used to preside over the sitting of the Legislative Council.
2. Sir Frederick Whyte was the first Speaker of the Central Legislative Assembly.
3. Shri Vithalbhai J. Patel was the first elected Speaker of the Central Legislative Assembly.

Which of the statements given above is/are correct?

(a) 3 only
(b) 2 and 3 only
(c) 1 only
(d) 1, 2 and 3

29. With reference to Peer to peer (P2P) lending, consider the following statements:

1. It is a form of crowdfunding used to raise unsecured loans which are re-paid with interest.
2. It is available to the existing Non-Banking Financial Companies (NBFCs).
3. The P2P platforms are allowed to raise deposits and provide loans.

Which of the statements given above is/are correct?

(a) 1 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

30. Consider the following statements about the Contempt of Court Act, 1971:

1. The superior courts derive their contempt powers from the Contempt of Court Act, 1971.
2. It is restricted to the criminal contempt cases only.
3. Every case of criminal contempt should be heard and determined by a Bench of not less than two Judges.

Which of the statements given above is/are correct?

(a) 1 only
(b) 1 and 3 only
(c) 3 only
(d) 1, 2 and 3

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31. Consider the following statements with respect to the Food Insecurity Experience Scale:

1. It is experience-based measures of household or individual food security.
2. It is developed by NITI Ayog in association with the Indian Council of Agriculture Research (ICAR).

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

32. Which of the following statements is correct about the Protection of Life and Personal Liberty under Article 21 of Indian Constitution?

(a) It is available only to the citizens of India.
(b) It recognised the right to die with dignity and active euthanasia as fundamental rights.
(c) It is available only against arbitrary executive action and not from arbitrary legislative action.
(d) There is no express provision in the Constitution for grant of compensation by the State for the infringement of it.

33. The Reserve Bank of India recently has released a Framework for Offline Digital Payments. In the context of this development, consider the following statements:

1. The Offline Digital Payments system does include cards, wallets, and mobile devices.
2. The framework allows offline payments of up to ₹200 per transaction.
3. The grievance redressal mechanism for the Offline Digital Payments system is under the ambit of the integrated ombudsman scheme of the Reserve Bank of India.

Which of the statements given above is/are correct?

(a) 1 and 3 only
(b) 2 and 3 only
(c) 1, 2 and 3
(d) 2 only

34. The 1928 Calcutta session holds importance owing to its connection with the Nehru Report of 1928. The Session was presided over by

(a) Motilal Nehru
(b) Jawaharlal Nehru
(c) Sardar Vallabhbhai Patel
(d) Annie Besant

35. Pietra Dura is a method of decoration that can be observed in Mughal architecture. In this context, Pietra Dura has been used in which of the following Mughal monuments?

1. Itmad-ud-Daula Tomb
2. Humayun's Tomb
3. Taj Mahal

Select the correct answer using the code given below.

(a) 1 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

36. Consider the following statements regarding Prarthana Samaj:

1. It was founded in Bombay in 1867 by Atmaram Pandurang.
2. The Prarthana Samaj differed from Brahmo Samaj by its greater reluctance to break with orthodox traditions like idol worship.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

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37. With reference to the State of Forest Report, 2021, which one of the following groups of states represents the correct decreasing order of Forest Cover in India?

(a) Madhya Pradesh-Arunachal Pradesh-Chattisgarh-Odisha- Maharashtra
(b) Madhya Pradesh-Arunachal Pradesh-Maharashtra-Chattisgarh-Odisha
(c) Madhya Pradesh-Maharashtra-Arunachal Pradesh-Chattisgarh-Odisha
(d) Arunachal Pradesh-Madhya Pradesh-Maharashtra-Chattisgarh-Odisha

38. Consider the following statements about the Parliament:

1. The tenure of Lok Sabha is normally five years from the date of taking the oath of office by the elected members.
2. 'The Committee on Private Members' Bills and Resolutions' has members from both the Houses of Parliament.
3. It can make any law for the whole or any part of India for implementing International Treaties without the consent of any state.

Which of the statements given above is/are correct?

(a) 2 and 3 only
(b) 3 only
(c) 1 and 2 only
(d) 2 only

39. Consider the following statements about the distribution of legislative power under Article 245 of the Indian Constitution:

1. The Constitutional validity of a law can be determined as per societal conditions prevalent at that time.
2. A state law that has extra-territorial operation may not be enforced in another state but is not invalid.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

40. Which among the following institutions has launched the Forum for Decarbonizing Transport in India?

(a) Central Pollution Control Board (CPCB)
(b) United Nations Environment Programme and World Wide Fund for Nature, India
(c) NITI Aayog and World Resources Institute (WRI), India
(d) United Nations Environment Programme and Intergovernmental Panel on Climate Change

41. Consider the following statements regarding the Lokpal and Lokayukta Act, 2013:

1. It can not suomotu proceed against any public servant.
2. All entities receiving donations from foreign source in excess of ₹10 lakhs per year are brought under the jurisdiction of Lokpal.
3. 'Group D' officials are not under the jurisdiction of Lokpal.

Which of the statements given above is/are correct?

(a) 2 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1 only

42. Consider the following statements about the Rajya Sabha:

1. Since Independence only once did a Presiding officer of Rajya Sabha cast his vote.
2. It never adopted a motion for removal of a Judge.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

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43. With reference to Greywater, consider the following statements:

1. It is the discarded domestic waste water from sewage that contains human excreta and organic nutrients.
2. Jal Jeevan Mission to provide safe drinking water in India, seeks to treat greywater to achieve its objective.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

44. In the context of the four pillars of Zero Budget Natural Farming (ZBNF), "Acchadana" refers to:

(a) A fermented microbial culture used as a pesticide.
(b) High quality seed treatment mixture for seed and sapling treatment.
(c) The building up of soil humus to increase soil aeration.
(d) A water conservation method.

45. With reference to the Ganga River Basin, consider the following statements:

1. It extends only over India, Nepal and Bangladesh.
2. In India it covers only the states of Uttar Pradesh, Madhya Pradesh, Rajasthan, Bihar and West Bengal.

Which of the statements given above is/are ***not*** correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

46. With reference to ecological rules, which one of the following best defines Lack's Principle?

(a) Some insects, birds and mammals in warm humid climates bear dark or pigment than the races of same species present in cool and dry climates.
(b) Evolution is irreversible and it means that once the complex traits is lost then those traits will not revert back.
(c) Sexual size dimorphism increases with body size in taxa in which males are the larger sex and decreases with body size (hypoallometry) in those in which females are larger.
(d) The clutch size of each species of bird has been adapted by natural selection to correspond with the largest number of young for which the parents can, on average, provide enough food.

47. Which of the following factors have led to the discoloration of the Taj Mahal?

1. Vehicular emissions in the Taj Trapezium Zone (TTZ).
2. Pollution in the Yamuna River.
3. Burning of coal by the petha (a sweet) makers.

Select the correct answer using the code given below.

(a) 1 and 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

48. Which of the following Articles of the Indian Constitution provides for the original jurisdiction of the high courts?

(a) Article 105
(b) Article 226
(c) Article 148
(d) Article 142

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49. With reference to Global Fuel Economy Initiative , consider the following statements:

1. GFEI promotes the introduction of energy efficient vehicles in developed countries only.
2. Its objective is to improve vehicle fuel efficiency by 50 percent by 2050.
3. GFEI is an initiative of G20 countries.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 only
(c) 2 and 3 only
(d) 1 and 3 only

50. Which of the following regions is considered as the earliest continental landmass to emerge from oceans?

(a) Singhbhum region
(b) Gulf of Khambat region
(c) Himalayan region
(d) Kudremukh region

51. Consider the following statements about the President of India:

1. During his term of office he is immune from civil proceedings.
2. His privileges, emoluments, and allowances are mentioned in the Constitution and can not be diminished during his term of office.
3. His pension is a charged expenditure on the Consolidation Fund of India.

Which of the statements given above is/are correct?

(a) 1, 2 and 3
(b) 2 and 3 only
(c) 3 only
(d) 2 only

52. Referred to as NASA's new eye in the sky, This Earth-observing satellite is a joint mission of NASA and the United States Geological Survey. The mission aims to study climate change and is a continuation of a series of Earth-observing spacecraft stretching back almost 50 years.

Identify the satellite system from the passage given above.

(a) Landsat-9
(b) ALOS-2
(c) Cartosat-3
(d) Sentinel-5

53. Consider the following statements about the Export Credit Guarantee Corporation of India Ltd. (ECGC):

1. It functions under the administrative control of the Ministry of Commerce & Industry.
2. It offers Export Credit Insurance covers to the banks to enable exporters to obtain better facilities from them.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

54. Recently the Insurance Regulatory and Development Authority of India (IRDAI) has issued a framework around Surety bonds. In the context of this development, consider the following statements:

1. The bonds are provided by the contractor to the entity which is awarding the project.
2. Surety Insurance contracts shall be issued to specific projects as well as clubbed for multiple projects.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

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55. Which of the following was the first Indian state to ban disposable plastic bags and has now also banned the use of packaged mineral water bottles?

(a) Sikkim
(b) Manipur
(c) Assam
(d) Arunachal Pradesh

56. The World Health Organisation's new air quality guidelines, Global Air Quality Guidelines (AQGs) released in 2021 recommend air quality levels for which of the following pollutants?

1. Carbon Dioxide
2. Ozone
3. Carbon Monoxide
4. Nitrogen Dioxide

Select the correct answer using the code given below.

(a) 1, 2 and 3 only
(b) 2, 3 and 4 only
(c) 1 and 4 only
(d) 1, 2, 3 and 4

57. Which of the following statements is correct about the Fifth Schedule of the Indian Constitution?

(a) A Tribes Advisory Council can be constituted only in a State having Scheduled Areas.
(b) The Governor of the State can increase the area of any Scheduled Area in the State.
(c) Currently, no States of North-East India have Fifth Schedule Areas.
(d) Its amendment is considered an amendment of the Constitution for the purposes of Article 368.

58. *He as an indentured laborer took part in the emancipation struggle of indentured laborers in Fiji. Later he was instrumental in organizing a radical peasant movement in Awadh district of United provinces in 1918-19 which helped in the formation of UP Kisan Sabha.*

Which of the following personalities is being described in the passage given above?

(a) Baba Ramachandra
(b) Sahajanand Saraswati
(c) N.G. Ranga
(d) Indulal Yagnik

59. Consider the following statements with respect to musical instruments in India:

1. The Kamaicha is a bowed lute played by the manganiars of west Rajasthan.
2. Nagada is a resounding drum used as accompaniment by folk performers of Nautanki in North India.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

60. This National Park harbours the largest stretch of lowland rainforests in India. It is known for having the last remaining stretches of Assam Valley Tropical Wet Evergreen Forests. The National park is home to elephants, hoolock gibbons, golden cats, clouded leopards. Recently the Assam Government has notified it as the 7th National Park of the state.

Identify the National Park using the description given above.

(a) Namdapha
(b) Dehing Patkai
(c) Dibru-Saikhowa
(d) Orang National Park

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61. Consider the following pairs:

Tribes		**Inhabitants of**
1. Dimasas	:	Assam
2. Apatanis	:	Arunachal Pradesh
3. Nyishis	:	Kerala

Which of the pairs given above are correctly matched?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

62. Consider the following pairs with reference to the Constitution Amendment Acts:

Amendment Act		***Provisions inserted***
1.52nd Amendment	:	Provision of Tenth Schedule
2. 25th Amendment	:	Saving of laws giving effect to certain directive principles
3.42nd Amendment	:	No limitation on the constituent power of Parliament under Article 368.

Which of the pairs given above is/are correctly matched?

(a) 1 only
(b) 2 and 3 only
(c) 1, 2 and 3
(d) 1 and 2 only

63. Recently various parts of the world including India are witnessing rise in the phenomenon of Flash Droughts. Which of the following statements is/are correct regarding 'Flash Droughts'?

1. It is a short-lived severe event where rapid intensification of drought occurs.
2. Majority of flash drought events in India have occurred during monsoon season.

Select the correct answer using the code given below.

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

64. With reference to Escape Velocity, consider the following statements:

1. It is the minimum speed required for an object to escape from the gravitational field of a celestial body.
2. It is directly proportional to the mass of the object
3. Escape velocity of the Moon is lower than the escape velocity of Earth.

Which of the statements given above are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

65. Which of the following is correct with reference to resistivity of various materials?

(a) The resistivity of conductors increases with rise in temperature
(b) The resistivity of a semiconductor increases with rise in temperature
(c) The resistivity of conductors decreases with rise in temperature
(d) Both (b) and (c)

66. Consider the following statements in the context of the Thrissur Pooram festival of Kerala:

1. Thrissur Pooram festival witnesses the participation of 10 temples around the Vadakkunatan temple.
2. The festival is celebrated before the harvest as a good omen.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

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67. With reference to RBI guidelines on Card Tokenization, consider the following statements:

1. It prohibits all online shopping portals from saving card details on their servers.
2. Tokenisation is applicable only to domestic cards.
3. A token can be generated for multiple cards and merchants.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 3 only
(d) 1 and 3 only

68. Consider the following statements about the Small Finance Bank:

1. They are subject to all prudential norms and regulations of RBI as applicable to commercial banks.
2. They are required to extend 75% of its adjusted Net Bank Credit to the sectors eligible for priority sector lending.

Which of the statements given above is/are ***not*** correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

69. In its quest for expansion and consolidation, British-India waged many wars. In this context, arrange the following in chronological order.

1. First Anglo-Sikh War
2. First Anglo-Afghan War
3. First Anglo-Burma War

Select the correct answer using the code given below.

(a) 3-2-1
(b) 3-1-2
(c) 2-3-1
(d) 2-1-3

70. Which of the following is/are correct with reference to Vakataka bronze images of Phophnar in Maharashtra?

1. They are contemporary to the Gupta period bronze images.
2. They are influenced by the Mathura school of art.
3. Buddha's right hand is shown in Abhaya mudra.

Select the correct answer using the code given below.

(a) 1 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

71. The phrase, "to uphold and protect the sovereignty, unity, and integrity of India" is mentioned in

(a) Oath or affirmation by the President
(b) Preamble
(c) Fundamental duties
(d) Directive Principles of State Policy

72. Which of the following components can be included in the non-tax revenue receipts of the government?

1. Petroleum Exploration License (PEL) fee
2. Spectrum usage charges
3. Audit services
4. Receipts through toll plazas

Select the correct answer using the code given below.

(a) 1 and 2 only
(b) 1, 3 and 4 only
(c) 2, 3 and 4 only
(d) 1, 2, 3 and 4

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73. Consider the following sects:
1. Varkari Panth
2. Pushti Marg Sampradaya
3. Dashanami Sanyasi
4. Nimbarak Sampradya

Which of the sects given above follow Vaishnavism?
(a) 1 only
(b) 2 and 4 only
(c) 1, 2 and 4 only
(d) 3 only

74. With reference to the National Bank for Financing Infrastructure and Development (NBFID), consider the following statements:
1. It is a corporate body established by an act of the parliament.
2. It can directly or indirectly lend to infrastructure projects located entirely or partly in India.
3. It cannot raise money through borrowing from multilateral institutions.

Which of the statements given above is/are correct?
(a) 2 only
(b) 1 and 2 only
(c) 1 and 3 only
(d) 1, 2 and 3

75. With reference to Site Directed Nuclease (SDN) technology recently in news, consider the following statements:
1. It can be used to precisely remove undesirable traits in plants – such as anti-nutrients or allergens.
2. SDN technology uses recombinant DNA involving the introduction of foreign DNA into plants.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

76. Consider the following statements with respect to recently launched NSE-Shine:
1. The platform will provide a data framework for bullion bar integrity for settlement of Gold derivatives contracts.
2. It runs on blockchain technology.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

77. With reference to Scramjet Engine, consider the following statements:
1. In a Scramjet Engine, compression of air occurs due to the forward speed of the aircraft.
2. The combustion takes place at subsonic airflow.
3. Scramjet engines are used in the propulsion systems of Hypersonic missiles.

Which of the statements given above is/are correct?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 3 only

78. Consider the following statements regarding Digital payment in India:
1. RTGS accounts for the largest share of the total volume of digital transactions.
2. Unified Payments Interface (UPI) from the retail segment has a majority share in transaction value.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

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79. With reference to the Pangong Tso, consider the following statements:

1. Pangong Tso is a part of the Indus river basin.
2. It is the world's highest saltwater Lake.
3. The lake is recognized under the Ramsar Convention as a Wetland of International Importance.

Which of the statements given above is/are correct?

(a) 2 only
(b) 1 and 3 only
(c) 1 and 2 only
(d) 3 only

80. Which of the following statements is/are correct with reference to Brihadeswara temple?

1. Raja Perunthachan was the chief architect of the temple.
2. Keralantakan Gopuram of the temple was built to commemorate Rajaraja's victory over the Pandyas.

Select the correct answer using the code given below.

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

81. Consider the following statements regarding paintings of neolithic-chalcolithic period in ancient India:

1. Cattle form the dominant theme in these paintings.
2. Instead of painting the drawings, crayoning (rubbing dry color over stone) was used.
3. Humans as subjects were also used.

Which of the statements given above is/are correct?

(a) 1 only
(b) 1, 2 and 3
(c) 2 and 3 only
(d) 1 and 3 only

82. Which of the following statements is correct about the Excess Grants mentioned in Article 115 of the Indian Constitution?

(a) It is granted for a special purpose and forms no part of the current service of any financial year.
(b) The Demand for Excess Grants is made after the actual expenditure is incurred.
(c) It is presented to the Parliament after the end of the financial year in which the expenses were made.
(d) Before the demands for excess grants are submitted to the Lok Sabha for voting, they must be approved by the Public Accounts Committee of Parliament.

83. Which of the following initiatives are planned under the National Mission for Enhanced Energy Efficiency (NMEEE) to enhance energy efficiency in energy intensive industries?

1. Perform Achieve and Trade Scheme (PAT)
2. Market Transformation for Energy Efficiency (MTEE)
3. Energy Efficiency Financing Platform (EEFP)
4. Framework for Energy Efficient Economic Development (FEEED)

Select the correct answer using the code given below.

(a) 1 and 2 only
(b) 2, 3 and 4 only
(c) 1, 3 and 4 only
(d) 1, 2, 3 and 4

84. It is a financial instrument which is a hybrid of debt & equity financing that gives the lender the right to convert to an ownership or equity interest in the company in case of default, generally, after venture capital companies and other senior lenders are paid.

Which among the following financial instruments is best described by the above passage?

(a) Mezzanine Financing
(b) Invoice Financing
(c) Senior Debt
(d) Debt Financing

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85. In the context of Electronic Gold Receipts, consider the following statements:

1. The Electronic Gold Receipts shall be considered as securities held under Demat form.
2. Any recognized stock exchange in the country can launch trading in Electronic Gold Receipts.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

86. Consider the following pairs of land classification during Sangam age:

Land		***Type of land classification***
1. Kurinji	:	mountains
2. Marudam	:	Agricultural land
3. Neydal	:	Desert land

Which of the pairs given above is/are correctly matched?

(a) 1 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

87. *In this historic case, the whole Anushilan group was put on trial and was charged with "Conspiracy" or "waging war against the King". The case took nearly one year to complete and came to a close in 1909. In this case, Aurobindo Ghosh was defended by Chittaranjan das and was acquitted but prominent leaders like Hemchandra Kanungo, Barin Ghosh, etc were convicted.*

Which of the following cases is being described in the above passage?

(a) Alipore Bomb Case
(b) Lahore Conspiracy Case
(c) Kakori train robbery Case
(d) Delhi Conspiracy Case

88. Recently seen in the news 'Innovations for You' is a/an

(a) Annual review process of the UNFCC awarding innovations based on traditional knowledge to safeguard the environment.
(b) Compendium of innovations of entrepreneurial minds of India solving problems of present for future
(c) Recognition of countrywide efforts in lieu of the Swacch Bharat Abhiyan.
(d) Collaborative effort of ISRO and Ministry of MSME to identify small scale space science developments.

89. Considered as the first queen to have fought against the British colonial power, the woman from Tamil Nadu is an embodiment of "Nari Shakti". The queen formed a women's only army called 'Udaiyaal' and formed an alliance with Hyder Ali to fight against British Colonizers.

Identify the personality from the passage given above.

(a) Velu Nachiyar
(b) Kittur Chennama
(c) Abbaka Chowta
(d) Anjalai Ammal

90. In the context of colonial India, the Punnapra-Vayalar uprising of 1946 was a

(a) working class revolt.
(b) muslim peasants revolt against Hindu landlords.
(c) revolt against caste atrocities.
(d) tribal revolt against the outsiders.

91. Arrange the following Himalayan peaks from West to East.

1. Namcha Barwa
2. Nanda Devi
3. Kanchenjunga
4. Nanga Parbat

Select the correct answer using the code given below.

(a) 1-2-3-4
(b) 1-2-4-3
(c) 2-4-3-1
(d) 4-2-3-1

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92. The report, titled The State of the World's Land and Water Resources for Food and Agriculture (SOLAW 2021) is published by:

(a) United Nations Environment Programme (UNEP)
(b) Food and Agriculture Organisation (FAO)
(c) European Commission (EC)
(d) WWF

93. Recently, the Centre has amended the Legal Metrology (Packaged Commodities) Rules 2011. In this context, which of the following is/are correct?

1. Declaration of date of manufacture on the pre-packed commodities is made mandatory.
2. The rules allow imported items to declare the MRP in foreign currency.
3. The rules are drafted by the Ministry of Commerce.

Select the correct answer using the code given below.

(a) 1 and 3 only
(b) 2 and 3 only
(c) 1 only
(d) 1, 2 and 3

94. Fowler Committee was appointed by the British Government of India on 29 April 1898 to examine the

(a) position of Indian currency
(b) issues in civil services
(c) expenditure of army
(d) educational reforms

95. Consider the following statements about animal husbandry and fisheries in India:

1. Cattle and buffaloes accounts for largest share in livestock farming.
2. Since independence, milk production in the country has increased by about ten times.
3. More than 50% of the fish production comes from the marine sector (seas and oceans).

Which of the statements given above is/are correct?

(a) 1 and 3 only
(b) 2 only
(c) 2 and 3 only
(d) 1 and 2 only

96. As per Article 243D and 243M of Indian Constitution, reservation of seats for the Scheduled caste in Gram Panchayats is ***not*** applicable to which of the following States/U.T. of India?

(a) Arunachal Pradesh
(b) Sikkim
(c) Jammu and Kashmir
(d) Ladakh

97. Consider the following statements regarding Red Sanders:

1. It is listed as vulnerable in the International Union for Conservation of Nature's (IUCN) Red List.
2. It is endemic to Western Himalayas.
3. It is used for making furniture, woodcraft and musical instruments.
4. It is listed under Appendix II of CITES.

Which of the statements given above are correct?

(a) 1 and 2 only
(b) 3 and 4 only
(c) 2 and 4 only
(d) 1, 2, 3 and 4

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98. In which of the following agricultural and allied sectors is hundred per cent Foreign Direct Investment (FDI) allowed in India?
1. Animal Husbandry
2. Tea plantations
3. Palm Oil plantations
4. Development and Production of seeds

Select the correct answer using the code given below.
(a) 1 and 4 only
(b) 2 and 3 only
(c) 2 only
(d) 1, 2, 3 and 4

99. Which of the following statements best describes the Hindu Undivided Family?
(a) It consists of all persons lineally descended from a common ancestor, and also the wives but not daughters of the male descendants.
(b) It consists of all persons directly descended from a common ancestor, and also the wives and all the daughters of the male descendants.
(c) It consists of all persons directly or indirectly descended from a common ancestor excluding the female members.
(d) It consists of all persons lineally descended from a common ancestor and includes their wives and unmarried daughters.

100. With respect to the Mansabdari system under the Mughal rule, consider the following statements:
1. The mansabdars had both civil as well as military functions.
2. All mansabdars were paid in cash.
3. It was hereditary in nature.

Which of the statements given above is/are correct?
(a) 1 only
(b) 1 and 3 only
(c) 3 only
(d) 1, 2 and 3

98. निम्नलिखित में से किस कृषि और संबद्ध क्षेत्रक में भारत में सौ प्रतिशत प्रत्यक्ष विदेशी निवेश (FDI) की अनुमति प्रदान की गई है?
1. पशुपालन
2. चाय बागान
3. ताड़ तेल के बागान
4. बीजों का विकास और उत्पादन

नीचे दिए गए कूट का प्रयोग कर सही उत्तर चुनिए।
(a) केवल 1 और 4
(b) केवल 2 और 3
(c) केवल 2
(d) 1, 2, 3 और 4

99. निम्नलिखित कथनों में से कौन-सा हिंदू अविभाजित परिवार का सर्वश्रेष्ठ वर्णन करता है?
(a) इसमें वे सभी व्यक्ति जो एक सामान्य पूर्वज के वंशज हैं और उनकी पत्नियां शामिल होती हैं, लेकिन पुरुष वंश की पुत्रियां शामिल नहीं होती हैं।
(b) इसमें वे सभी व्यक्ति जो एक सामान्य पूर्वज से प्रत्यक्ष वंशज हैं और उनकी पत्नियां तथा पुरुष वंश की सभी पुत्रियां भी शामिल होती हैं।
(c) इसमें महिला सदस्यों को छोड़कर प्रत्यक्ष या परोक्ष रूप से एक सामान्य पूर्वज के वंशज शामिल होते हैं।
(d) इसमें वे सभी व्यक्ति जो एक सामान्य पूर्वज के वंशज हैं और इसमें उनकी पत्नियां तथा अविवाहित पुत्रियां शामिल होती हैं।

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100. मुगल शासन के अधीन मनसबदारी व्यवस्था के संदर्भ में, निम्नलिखित कथनों पर विचार कीजिए:
1. मनसबदारों के पास नागरिक और सैन्य दोनों कार्य होते थे।
2. सभी मनसबदारों को नकद भुगतान किया जाता था।
3. यह प्रकृति में वंशानुगत थी।

उपर्युक्त कथनों में से कौन-सा/से सही है/हैं?
(a) केवल 1
(b) केवल 1 और 3
(c) केवल 3
(d) 1, 2 और 3

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ANSWERS & EXPLANATIONS
GENERAL STUDIES (P) TEST – 3495 (2022)

Q 1.D

- Natural Justice in simple terms means the minimum standards or principles which the administrative authorities should follow in deciding matters which have civil consequences. **It implies fairness, reasonableness, equity, and equality.**
- **There are mainly two Principles of Natural Justice:**
  - **Nemo judex in causa sua' : No one should be made a judge in his own cause and the rule against bias.**
    - 'Bias' means an operative prejudice whether conscious or unconscious in relation to a party or issue. Therefore, the 'Rule Against Bias' strikes against those factors which may improperly influence a judge in arriving at a decision in any particular case. The requirement of this principle is that the judge must be impartial and must decide the case objectively on the basis of the evidence on record.
  - **'Audi alteram partem' means to hear the other party or no one should be condemned unheard.**
    - The Rule simply implies that a person must be given an opportunity to defend himself/herself. This principle is a 'sine qua non of every civilized society.
    - The principle or effective hearing embraces a larger sphere and includes the following essential aspects:
    - Right to Notice
    - Right to Present Case and Evidence
    - **The Right to Rebut Adverse Evidence:** The right to rebut adverse evidence presupposes that the person has been informed about the evidence against him. This does not, however, necessitate the supply of adverse material in original in all cases. It is sufficient if the summary of the contents of the adverse material in made available provided it is not misleading. The opportunity to rebut evidence necessarily involves the consideration of two factors: cross-examination and legal representation.
- **Hence option (d) is the correct answer.**

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Q 2.C

- **Development of Sanskrit**
  - The development of Sanskrit grammar began with **Panini in 400 B.C**. with his book Asthadhyayi being the oldest book in Sanskrit grammar. Some of the Buddhist literature belonging to Mahayana and the Hinayana school are even written in the Sanskrit language. The **book Mahavastu of the Hinayana school** is a treasure of stories. **Lalitavistara,** the most sacred Mahayana text, and **Ashvagosha's Buddhacharita were also written in Sanskrit.**
  - The chaste form of Sanskrit developed between 300 BC to 200 BC. It was a refined version of Vedic Sanskrit. The first evidence of the use of **Sanskrit can be found in the inscriptions of Rudradamana at Junagarh in the present Southern Gujarat region.**
  - However, it was the Gupta period when the use of Sanskrit in poetry can be traced. This is totally a period of creation of pure literature which is evident in the works as Mahakavyas (epics) and Khandakavyas (semi-epics).
  - In the field of Sanskrit literature, this period is known as the period of unique creation. This is because of the fact that there has been a variety of literary works developed during this reign. Another important aspect of it is related to ornate style in literary works.

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- **Mahavamsa**
  - Its literal meaning is Great Chronicle. It is the most important **Pali epic poem**. Its tone is historical and it describes the kings of Sri Lanka. The book is one of the longest historical accounts. **Hence option (c) is the correct answer.**

Q 3.A

- **India has recently welcomed Egypt as the fourth new member of the BRICS New Development Bank. Bangladesh, UAE, and Uruguay have also joined in September 2021.** The New Development Bank (NDB) was established in 2015 by BRICS countries – Brazil, Russia, India, China, and South Africa. **The Bank's membership is open to members of the United Nations.** NDB commenced the admission of its first new member countries in the second half of 2021. **Hence statement 1 is correct**
- Projects in areas such as transport, water and sanitation, clean energy, digital infrastructure, social infrastructure, and urban development are within the scope of the bank. The NDB said it has so far approved about 80 projects in all of its member countries, totaling a portfolio of $30 billion.
- The New Development Bank (NDB) has an authorized capital of USD 100 billion, which is divided into one million shares that have a par value of one hundred thousand dollars each.NDB's founding members made an initial subscription of five hundred thousand shares totaling USD 50 billion, which include one hundred thousand shares corresponding to a paid-in capital of USD 10 billion and four hundred thousand shares corresponding to a callable capital of USD 40 billion. **The initial subscribed capital was equally distributed amongst the founding members, but with the recent admission of the new members, the share of the subscribed capital varies amongst the different members of the bank**

MEMBER COUNTRY	SHARES (NUMBER)	SUBSCRIBED CAPITAL
BRAZIL	Shares subscribed: 100,000 Exercisable votes: 98,637	Amount (million USD): 10,000.0 Percent of total: 19.42%
RUSSIA	Shares subscribed: 100,000 Exercisable votes: 100,000	Amount (million USD): 10,000.0 Percent of total: 19.42%
INDIA	Shares subscribed: 100,000 Exercisable votes: 100,000	Amount (million USD): 10,000.0 Percent of total: 19.42%
CHINA	Shares subscribed: 100,000 Exercisable votes: 100,000	Amount (million USD): 10,000.0 Percent of total: 19.42%
SOUTH AFRICA	Shares subscribed: 100,000 Exercisable votes: 99,090	Amount (million USD): 10,000.0 Percent of total: 19.42%
BANGLADESH	Shares subscribed: 9,420 Exercisable votes: 9,420	Amount (million USD): 942.0 Percent of total: 1.83%
UNITED ARAB EMIRATES	Shares subscribed: 5,560 Exercisable votes: 5,560	Amount (million USD): 556.0 Percent of total: 1.08%
Total	Shares subscribed: 514,980 Exercisable votes: 512,708	Amount (million USD): 51,498.0 Percent of total: 100.00%

- **Hence statement 2 is not correct**
- The subscribed capital of Egypt shall be updated in the table as the country deposits its instrument of accession, though it has been admitted by the NDB Board of Governors.

Q 4.B

- Generally, the air just above the ground becomes hotter than the air further up. The hotter air is lighter (less dense) than the cooler air above it and has a refractive index slightly less than that of the cooler air.
- Since the physical conditions of the refracting medium (air) are not stationary, the apparent position of the object, as seen through the hot air, fluctuates. This wavering is thus an effect of atmospheric refraction (refraction of light by the earth's atmosphere) on a small scale in our local environment. **The twinkling of a star is due to the atmospheric refraction of starlight. Hence, statement 1 is not correct.**
- The starlight, on entering the earth's atmosphere, **undergoes refraction continuously before it reaches the earth**. The atmospheric refraction occurs in a medium of gradually changing refractive index.
- Since the atmosphere bends starlight towards the normal, the apparent position of the star is slightly different from its actual position. **The star appears slightly higher (above) than its actual position**

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when viewed near the horizon. The Sun is visible to us about 2 minutes before the actual sunrise, and about 2 minutes after the actual sunset because of atmospheric refraction. **Hence, statement 2 is correct.**

- Further, this apparent position of the star is not stationary but keeps on changing slightly, since the physical conditions of the earth's atmosphere are not stationary. Since the stars are very distant, they approximate point-sized sources of light.
- As the path of rays of light coming from the star goes on varying slightly, the apparent position of the star fluctuates and the amount of starlight entering the eye flickers – the star sometimes appears brighter, and at some other time, fainter, which is the twinkling effect.

Q 5.A

- Angel funds refer to a money pool created by high net worth individuals or companies (generally called angel investors), for investing in business start-ups. **They are a sub-category of venture capital funds with a strict focus on startups, while venture capital funds generally invest at a later stage of development of the investee company. Hence, statement 1 is correct.**
- In India, the term Angel Funds is defined in SEBI (Alternative Investment Funds) (Amendment) Regulations, 2013. Here, Angel fund is defined as a sub-category of Venture Capital Fund under Category I- Alternative Investment Fund (AIF).
- **Angel funds in India are regulated by the Securities and Exchange Board of India (SEBI)** under the umbrella regulations for Alternative Investment Funds (AIFs). **Hence, statement 2 is not correct.**
- Angel funds can raise funds only by way of issue of units to angel investors and should have a corpus of at least ten crore rupees. Further, angel funds can accept, over a period of three years, an investment of not less than Rs. 25 lakh from an angel investor.

Q 6.C

- Organisms can adapt to an environment in different ways.
- They can adapt biologically, meaning they alter body functions.
- **An example of biological adaptation can be seen in the bodies of people living at high altitudes, such as Tibet.**
- Tibetans thrive at altitudes where oxygen levels are up to 40 per cent lower than at sea level.
- Breathing air that thin would cause most people to get sick, but Tibetans' bodies have evolved changes in their body chemistry.
- Most people can survive at high altitudes for a short time because their bodies raise their levels of haemoglobin, a protein that transports oxygen in the blood.
- **However, continuously high levels of haemoglobin are dangerous,** so increased haemoglobin levels are not a good solution to high-altitude survival in the long term.
- Tibetans seemed to have evolved genetic mutations that **allow them to use oxygen far more efficiently without the need for extra haemoglobin. Hence option (c) is the correct answer.**

Q 7.B

- The founder of the Sunga dynasty was Pushyamitra Sunga, who was the commander-in-chief under the Mauryas. He assassinated the last Mauryan ruler Brihadratha and usurped the throne. **Pushyamitra was a staunch follower of Brahmanism.** He performed two asvamedha sacrifices. **In the cultural sphere, the Sungas revived Brahmanism and horse sacrifice. They also promoted the growth of Vaishnavism and the Sanskrit language. In short, the Sunga rule was brilliant anticipation of the golden age of the Guptas. Hence statement 1 is not correct and statement 3 is correct.**
- Malavikagnimitra is a five-act drama written by Kalidasa in the 5th century CE. The story is a light tale set in a harem, and, unlike Kalidasa's other works, it sustains a playful and comical mood throughout. **It concerns the machinations of King Agnimitra of the Sunga dynasty to win Malavika, a female dance student with whom he is in love. Hence statement 2 is correct.**

Q 8.B

- The gharial (Gavialis gangeticus) is known as the gavial or the fish-eating crocodile.
- The gharial is listed as **Critically Endangered** by the IUCN Red List as a result of catastrophic population declines, which have seen the population decline by up to 98% since the 1940s. **Hence statement 1 is not correct.**
- Presently, the wild populations of gharials can only be found in **Bangladesh, India and Nepal.**
- The gharial can be found in north Indian rivers like the **Ganga, Yamuna, Chambal and their tributaries. Hence statement 2 is correct.**
- **Like Tigers are the topmost predators in a forest, gharials are the topmost predators in a river. Hence statement 3 is correct.**

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- Gharials balance the riverine food chain.
- Gharial keeps in check their prey (that is fish), which keep in check their prey and so on.
- The presence of gharials indicates a healthy riverine ecosystem

Q 9.B

- RTS, S/ASO1 (RTS.S), trade name Mosquirix, was endorsed by the World Health Organisation (WHO). **It is the first malaria vaccine shown toprovide partial protection against malaria in young children.** It will be the first malaria vaccine provided to young children through national immunization programs in three sub-Saharan African countries. **Hence, statement 1 is not correct.**
- **It is a recombinant protein vaccine, which means it includes DNA from more than one source.** It targets a protein called circumsporozoite in Plasmodium falciparum — the deadliest malaria parasite globally and the most prevalent one in Africa. It offers no protection against P vivax malaria, which predominates in many countries outside of Africa. **Hence, statement 2 is correct.**
- The vaccine acts against P. falciparum, the most deadly malaria parasite globally, and the most prevalent in Africa. **It is designed to prevent the parasite from infecting the liver,** where it can mature, multiply, and infect red blood cells, which can lead to disease symptoms. **Hence, statement 3 is correct.**
- The vaccine, which requires four injections, is for children under the age of five. Its efficacy is modest, as demonstrated in phase 3 trials from 2009 to 2014, on 15,000 young children and infants in 7 African countries. Four doses prevented 39% cases of malaria over 4 years of follow-up and 29% cases of severe malaria, with significant reductions also seen in overall hospital admissions.

Q 10.D

- **Tundra satellite system is a constellation of Missile Early Warning Satellites established by Russia between 2015 and 2020. It carries a secure emergency communications payload to be used in case of a nuclear war. Hence, option (d) is the correct answer.**
- It is a series of satellites that are the next generation of Russian early-warning satellites to replace the early warning satellites of the Oko-1 system.
- They are part of the EKS or Unified Space System (USS-Also sometimes referred as Kupol or dome), which will also include several satellites in geostationary orbit.
- Russia recently successfully placed into orbit a military satellite believed to be part of Russia's early warning anti-missile system. The launch could be delivering a Tundra satellite. Russia has previously launched Tundra satellites in 2015, 2017 and 2019

Q 11.C

- The UV Index (UVI) is a measure of the level of UV radiation. The values of the index range from zero upward - the higher the UVI, the greater the potential for damage to the skin and eye, and the less time it takes for harm to occur.
- **The UV index tells you how much ultraviolet radiation is around at ground level on a given day, and its potential to harm your skin.** UV radiation is a component of sunlight that can cause tanning and sunburn in the short term. In the longer term, too much exposure to UV can cause cataracts and skin cancer. **Hence, statement 1 is correct.**
- There are two important kinds of UV radiation: UV-A, with wavelengths from 400 to 315 nanometres, and UV-B with wavelengths from 315 to 280 nanometres. (Shorter wavelengths are called UV-C, but are mainly blocked by the atmosphere). UV-A and UV-B both contribute to skin damage, ageing and skin cancer. But UV-B is the more dangerous: it is the major cause of sunburn, cataracts and skin cancer.
- The UV index takes into account how much UV radiation of different wavelengths is around and how each of those wavelengths affects our skin.
- The UV Index is an important vehicle to raise public awareness of the risks of excessive exposure to UV radiation, and to alert people about the need to adopt protective measures.
- **As part of an international effort, the UV index was developed by WHO, the United Nations Environment Programme, and the World Meteorological Organization.** Encouraging people to reduce their sun exposure can decrease harmful health effects and significantly reduce health care costs. **Hence, statement 2 is correct.**

Q 12.D

- Recently, the Securities and Exchange Board of India (SEBI) has issued a discussion paper on regulating Algorithmic or Algo Trading, or trades generated out of automatic execution and logic.
- **Algorithmic trading refers to orders generated at superfast speed by the use of advanced mathematical models that involve automated execution of the trade. Hence option (d) is the correct answer.**

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- Even a split-second faster access is considered capable of bringing huge gains to a trader. The algo runs on the broker's systems and not on the investor's system.
- The algo trading system automatically monitors the livestock prices and initiates an order when the given criteria are met. This frees the trader from having to monitor livestock prices and initiate manual order placement.
- **Other associated terms –**
- **Scalping** is the most short-term form of trading. **Scalp traders only hold positions open for seconds or minutes at most.** These short-lived trades target small intraday price movements. The purpose is to make lots of quick trades with smaller profit gains, but let profits accumulate throughout the day due to the sheer number of trades being executed in each trading session
- **Day traders** enter and exit their positions on the same day (unlike swing and position traders), removing the risk of any large overnight moves. At **the end of the day, they close their position with either a profit or a loss.** Trades are usually held for a period of minutes or hours, and as a result, require sufficient time to analyse the markets and frequently monitor positions throughout the day. Just like scalp traders, day traders rely on frequent small gains to build profits.
- **Swing Trading** – In this **position are held over a period of time,** to capture short-term market moves, traders do not need to sit constantly monitoring the charts and their trades throughout the day.
- **Position traders** are f**ocused on long-term price movement**, looking for maximum potential profits to be gained from major shifts in prices. As a result, trades generally span over a period of weeks, months or even years.

Q 13.A

- Kharif is cultivated throughout the country in monsoon. Paddy is the main crop in this season. It is cultivated in lakhs of acres in all the states of the country. Farmers adopt various measures to protect the paddy crop from pests and diseases. However in states especially southern state of Kerala **aquatic weeds include plants like vallisneria, najas, and utricularia submerged in water are posing a threat to paddy cultivation.**
- **Vallisneria:** It is commonly called the eel grass or tape grass. It is the most commonly found aquatic weed plant It was introduced as an ornamental aquarium plant in India. The genus is widely distributed in tropical and subtropical regions of Asia, Africa, Europe, and North America.
- **Najas**: Najas are commonly known as rice field water-nymph, a species of aquatic plant found in freshwater habitats, especially still or slow-moving waters, like ponds and in rice fields.
- **Utricularia**: It is a carnivorous aquatic plant, is now common in rice fields, but the problem is more severe in the second crop season.

Q 14.B

- Soil Health Card (SHC) is a printed report card issued to farmers **once in three years** indicating the status of their soil in terms of 12 parameters. **Hence statement 1 is not correct.**
- It is also accompanied by advice **on the various fertilizers** and other soil amendments he is supposed to make.
- SHC is a field-specific detailed report of soil fertility status and other important soil parameters that affect crop productivity. **Details in a Soil Health Card includes-**
  - Information regarding Soil Fertility
  - **Dosage of fertilizer application in crops. Hence statement 2 is correct**.
  - Information on soil amendments of saline or alkaline soil; and
  - Recommendation on integrated nutrient management.
- **The 12 parameters tested are:**
  - **Major Nutrients**
    - pH (Soil Reaction; acidity/alkalinity of the soil)
    - Total Dissolved salts
    - Organic Carbon
    - Phosphorous
    - Potash
  - **Minor Nutrients**
    - Sulphur
    - Magnesium
    - Calcium
  - **Micro-nutrients**
    - Zinc
    - Ferrous

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  - Manganese
  - Copper
- The existing Nitrogen - Phosphorus - Potassium (NPK) consumption ratio in the country is not balanced. The preferred ratio should be 4:2:1.
- **The imbalanced application of fertilizers has caused a deficiency of primary** nutrients (i.e. NPK), secondary nutrients (such as sulfur), and micronutrients in most parts of the country.
- SHC will ensure that farmers do not spend money unnecessarily on the purchase of fertilizers by adding more than required. Once there is an economy on the use of chemical fertilizers, the cost of production is expected to decrease, thereby easing the fiscal strain on Government.
  - Fertilizer sector accounts for a significant percentage of the total subsidies and power consumption in the country.
  - India imports large quantities of various fertilizers to meet the demand. About 25-30% of the requirement of Urea, 90% of the requirement of Diammonium phosphate (DAP), and 100% of the requirement of Muriate of Potash (MOP) are met by imports. The soil test-based fertilizer usage will reduce import bills and will also ensure higher yields per unit. **Hence statement 3 is correct.**

Q 15.A

Sources	Features Borrowed
Government of India Act of 1935	• Federal Scheme • Office of governor • Judiciary • Public Service Commissions • Emergency provisions and administrative details.
British Constitution	• Parliamentary government • Rule of Law • Legislative procedure • Single citizenship • Cabinet system • Prerogative writs • Parliamentary privileges and • Bicameralism
US Constitution	• Fundamental rights • Independence of judiciary • Judicial review • Impeachment of the president • Removal of Supreme Court and high court judges • Post of vice- president.
Irish Constitution	• Directive Principles of State Policy • Nomination of members to Rajya Sabha • Method of election of president.
Canadian Constitution	• Federation with a strong Centre • Vesting of residuary powers in the Centre • Appointment of state governors by the Centre, • **Advisory jurisdiction of the Supreme Court.**
Australian Constitution	• Concurrent List • Freedom of trade • Commerce and inter- course • **Joint sitting of the two Houses of Parliament.**
Weimar Constitution of Germany	• Suspension of Fundamental Rights during Emergency.
Soviet Constitution (USSR, now Russia)	• Fundamental duties • The ideal of justice (social,economic and political) in the Preamble.
French Constitution	• Republic and the ideals of liberty, equality and fraternity in the Preamble.
South African Constitution	• Procedure for amendment of the Constitution • **Election of members of Rajya Sabha.**
Japanese	• Procedure established by Law.

- **Hence option (a) is the correct answer.**

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Q 16.B

- "Sustainable Sand Mining Guidelines, 2016" issued by MoEF&CC requires preparation of **District Survey Report (DSR), which is an importantinitial step before grant of mining lease/LoI. Hence statement 1 is not correct.**
  - The guidelines emphasize detailed procedures to be followed for the purpose of identification of areas of aggradation/ deposition where mining can be allowed and identification of areas of erosion and proximity to infrastructural structures and installation where mining should be prohibited
- **There shall be no river bed mining operation allowed in the monsoon.** The period as defined by IMD Nagpur for each state shall be adhered to. **Hence statement 2 is correct.**
- **Mining of Sand from Agricultural Fields is not completely prohibited. Hence, statement 3 is not correct.**
  - In fact, this practice is prevalent in Haryana.
  - In fact, the guidelines state that mining of sand in such mine leases will require environmental clearance.
  - The lease should be of sand mining either from the agricultural field or river. In the same lease, both types of areas should not be included.
  - **The provision for sand mining in agricultural fields may be permitted, whenever replenishment of sand occurs due to natural phenomena.**

Q 17.D

- Ammonia (NH_3) is a highly reactive and soluble alkaline gas.
- It originates from both natural and anthropogenic sources, with the main source being **agriculture including animal husbandry, for example, manures, slurries and fertiliser application.**
- Ammonia comes from the **breakdown and volatilisation of urea, biomass burning or fertiliser manufacture.**
- Ammonia is also emitted from a range of non-agricultural sources, such as **catalytic converters in petrol cars,** landfill sites, sewage works, composting of organic materials, combustion, industry, wild mammals and birds and **volatilization from soils and oceans.**
- **Hence, option (d) is the correct answer.**

Q 18.A

- Praja Party was a council party that made its debut at the beginning of July 1929 as a loose parliamentary group. Evolving with the maiden name of the Bengal Praja Party (Bengal Tenant Party) it transformed itself by the end of the year into a public platform with the name of the **Nikhil Banga Praja Samiti (All Bengal Tenant Association) and was renamed as the Krishak Praja Party (Peasant-Tenant Party) in April 1936 mainly for the purpose of fighting the first provincial elections under the Government of India Act, 1935.**
- In 1936 Abul Kasem Fazlul Huq added a new color to Bengal politics through Krishak Praja Party by taking together the interests of the *krishaks* (peasants) as well as of the *prajas* (tenants).
- **To mobilize peasants behind the Party and capture their support, Fazlul Huq started a campaign for the abolition of the zamindari system in Bengal. In the election Manifesto of the Krishak Praja Paty (KPP), published in 1936, it was clearly laid down that**
  - Thorough overhauling of the Bengal Tenancy Act in the interest of the agriculturists ensuring the vesting of proprietary rights in the tillers of the soil and including
    - the abolition of the zamindar‟s right of *nazar* and *salamy* right of preemption
    - tenants‟ right of mutation of the name without additional payment
    - reduction of rent
- **Hence, option (a) is the correct answer.**

Q 19.A

- **Lion Capital, Sarnath:** The lion capital at Sarnath is carved out of **a single block of polished sandstone,** and was always a separate piece from the column itself. It **features four Asiatic Lions standing back to back**. They are mounted on an abacus with a frieze carrying sculptures in **high relief of an elephant, a galloping horse, a bull, and a lion, separated by intervening spoked chariot-wheels.** The whole sits upon a bell-shaped lotus. The capital was originally crowned by a 'Wheel of Dharma' (Dharmachakra popularly known in India as the "Ashoka Chakra"), with 24 spokes, of which a few fragments were found on the site. **Hence pair 1 is correctly matched.**
- **Ashokan Pillar, Lauriya Nandangarh:** Lauriya derived its name from a pillar (Laur) of Mauryan emperor Ashoka, which is located here. Nandangarh is the name of a mound, situated 2 km to the

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southwest of the Ashoka Pillar. At the present time, there is only one pillar at this site, which stands in its complete form. The **statue of a lion is mounted on a circular abacus at the top of the pillar.** The edict of emperor Ashoka is inscribed clearly and beautifully on the pillar. Even after years of its excavation, the **Mauryan polish used on the Ashoka pillar retains** its shine and radiance. **Hence pair 2 is correctly matched.**

- **Ashokan Pillar, Rampurva:** The Rampurva bull capital is noted as one of the seven remaining animal capitals from the Pillars of Ashoka. It is composed of a **lotus at the base, with an abacus decorated with floral designs, and the realistic depiction of a zebu bull.** It is noted for its delicately sculpted model demonstrating superior representation of soft flesh, sensitive nostrils, alert ears, and strong legs. It is a mixture of Indian and Persian elements. Whereas the motifs on the base, atop the inverted lotus, the rosette, palmette, and the acanthus ornaments are not Indian features, the **bull capital** is a masterpiece of Indian craftsmanship. The Rampurva Bull sculpture is said to have a velvet touch. **Hence pair 3 is not correctly matched.**

Q 20.C

- Union Education Minister recently **launched a 100 days reading campaign 'Padhe Bharat'.** The launch of the 100 Days Reading Campaign is in alignment with the National Education Policy (NEP) 2020 which emphasizes the promotion of joyful reading culture for children by ensuring the availability of age-appropriate reading books for children in local/mother tongue/regional/tribal Language.
- **Padhe Bharat campaign will focus on children studying in Balvatika to Grade 8.** The reading campaign will be organized for 100 days (14 weeks) starting from 1st January 2022 to 10th April 2022. The reading campaign aims to have the participation of all stakeholders at the national and state level including children, teachers, parents, community, educational administrators, etc. One activity per week per group has been designed with the focus on making reading enjoyable and building a lifelong association with the joy of reading.
- This campaign has also been aligned with the vision and goals of the foundational Literacy and Numeracy mission. The 100 days reading campaign will also focus on Indian languages including mother tongue/local/regional languages. It is in this regard, 21st February which is celebrated as International Mother Tongue Day has also been integrated with this campaign. This day will be celebrated with the activity of **KahaniPadhoApniBhasa Main (Reading story in own language)** across the country by encouraging children to read in their mother tongue/local language. This will help in promoting the local language and culture of our society.
- **Hence option (c) is the correct answer.**

Q 21.A

- On the **first day of the climate change conference, COP26, India launched an online dashboard called the 'Climate Equity Monitor'** for assessing equity in climate action, inequalities in emissions, energy and resource consumption across the world, and ongoing climate policies of several countries from the perspective of developing countries at the international level. **The website has been conceptualized and developed by Indian researchers from the Climate Change Group at the M.S. Swaminathan Research Foundation (MSSRF), Chennai, and the Natural Sciences and Engineering Department at the National Institute of Advanced Studies (NIAS) Bengaluru,** with other independent researchers. **Hence statement 2 is not correct**
- **Climate Equity Monitor** is an online dashboard for assessing equity in climate action in relation to climate mitigation, energy and resource consumption, and climate policy across the entire world. CEM, to the best of our knowledge, is the first such initiative from the global South that **will compare the policies and actions of Annex-I and Non-Annex-I Parties from the perspective of equity and CBDR-RC.**
- It is **aimed at monitoring the performance of Annex-I Parties under the UNFCCC (developed countries)** based on the "foundational principles" of the Climate Convention, namely equity and the principle of common but differentiated responsibilities and respective capabilities (CBDR-RC). **Hence statement 1 is correct**

Q 22.A

- Recently, Odisha's Bhubaneswar witnessed Zero Shadow Day.
- It is a rare celestial phenomenon during which **no shadow of an object or a being is observed.**
- It occurs when the sun is at its **highest point in the sky at all the regions between the Tropic of Cancer and the Tropic of Capricorn. Hence statement 1 is correct.**
- **The phenomenon occurs twice a year. Hence statement 2 is not correct.**

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- Due to the sun being exactly overhead, the shadow of all beings or objects disappears, resulting in Zero Shadow Day.

Q 23.D

- In the legal aspect though, the term 'Alien' refers to a foreign-born resident who is not a citizen by virtue of parentage or naturalization and who is still a citizen or subject of another country.
  - An enemy alien is a citizen or national of a country which is currently involved in any conflict or warfare with the country he currently resides in.
- The following fundamental rights are available to Indian citizens only and not to foreigners. They are-
  - Article 15 – Prohibition of discrimination on grounds of religion, race, caste, sex or place of birth.
  - Article 16 – Equality of opportunity in matters of public employment
  - Article 19 – Six types of freedom
  - Article 29 – Protection of language, script and culture of minorities
  - Article 30 – Right of minorities to establish and administer educational institutions.
- **All other Fundamental Rights are available to both citizens and foreigners. No Fundamental Rights are available to enemy aliens. Hence option (d) is the correct answer.**

Q 24.D

- **Recently, Environmental think tank Council on Energy, Environment and Wate**r has carried a first-of-its-kind district-level climate vulnerability assessment, or **Climate Vulnerability Index (CVI)**, in which it has analysed 640 districts in India to assess their vulnerability to extreme weather events such as cyclones, floods, heatwaves, droughts, etc. **Hence, option (d) is the correct answer.**
- The CVI maps exposure (that is whether the district is prone to extreme weather events), sensitivity (the likelihood of an impact on the district by the weather event), and adaptive capacity (what the response or coping mechanism of the district is).
- It helps map critical vulnerabilities and plan strategies to enhance resilience and adapt by climate-proofing communities, economies and infrastructure.
- Instead of looking at climate extremes in isolation, the study looks at the combined risk of hydro-met disasters, which is floods, cyclones and droughts, and their impact.
- **The study does not take into consideration other natural disasters such as earthquakes.**

Q 25.B

- Article 280 of the Constitution of India provides for a Finance Commission as a quasi judicial body. **It is constituted by the president of India every fifth year or at such earlier time as he considers necessary**.Therefore, it is mandatory for the President to constitute a Finance Commission after every five years.
- The Finance Commission (Miscellaneous Provisions) Act, 1951 was passed to give a structured format to the finance commission and to bring it to par with world standards, by laying down rules for the qualification and disqualification of members of the commission, and for their appointment, term, eligibility and powers. **Hence statement 1 is not correct.**
- The Finance Commission consists of a chairman and four other members to be appointed by the president. They hold office for such **period as specified by the president** in his order. **They are eligible for reappointment. Hence statement 3 is not correct.**
- The Commission can determine their procedure and in the performance of their functions can **have all the powers of a civil court under the Code of Civil Procedure, 1908** (5 of 1908), while trying a suit in respect of the following matters, namely:
  - summoning and enforcing the attendance of witnesses;
  - requiring the production of any document;
  - requisitioning any public record from any court or office.
  - **Hence statement 2 is correct.**

Q 26.D

- Edge computing enables data to be analysed, processed and transferred at the edge of a network. Meaning, **the data is analysed locally, closer to where it is stored, in real-time without latency.**
- The basic difference between edge computing and cloud computing lies in where the data processing takes place. In simple terms, cloud computing means storing and accessing data and programs over the Internet instead of your computer's hard drive.
- Edge computing, on the other hand, manages the massive amounts of data generated by IoT devices by storing and processing data locally.

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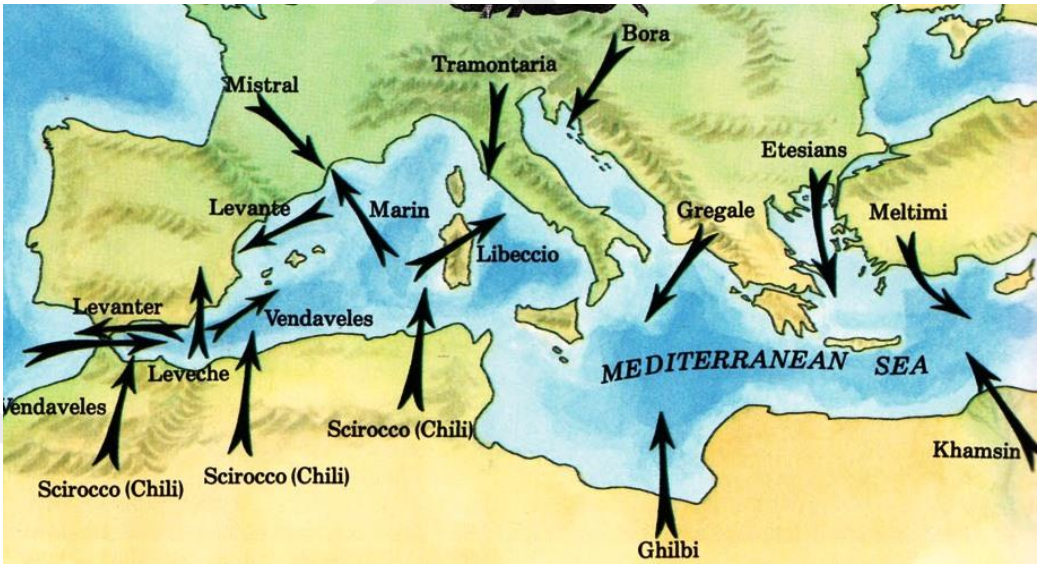
- **Benefits of edge computing:**
  - **It offers high speed, reduced latency & better reliability** which allows for quicker data processing and content delivery. **Hence, statement 2 is not correct.**
  - It offers better security by distributing processing, storage, and applications across a wide range of devices and data centers, which makes it difficult for any single disruption to take down the network.
  - Besides latency, **edge computing is preferred over cloud computing in remote locations**, where there is limited or no connectivity to a centralized location. These locations require local storage, similar to a mini data center, with edge computing providing the perfect solution for it. **Hence, statement 1 is correct.**
  - Edge computing, on the other hand, essentially manages the massive amounts of data generated by IoT devices by storing and processing data locally. That data doesn't need to be sent over a network as soon as it processed; only important data is sent — **therefore, an edge computing network reduces the amount of data that travels over the network. Hence, statement 3 is correct.**

Q 27.D

- Many winds both hot and cold are common in the Mediterranean region. The winds are caused by differences in topography of the region with high alps in the north, the Sahara desert in South, continental interiors in the east and open atlantic on the west give rise to great differences in temperatures, pressure and precipitation.
- **Sirocco Wind** – This is a hot, dry dusty wind which originates in Sahara desert. It blows outwards in a southerly direction from the desert interiors into cooler Mediterranean Sea. It is known by many local names such as Chili in Tunisia, Ghibli in Libya, Leveche in Spain, Khamsin in Egypt.
- **Mistral Wind** – It is a cold wind from the north rushing down the Rhone valley. The velocity of Mistral is intensified by the funnelling effect in the valley between the Alps and central Massif.
- **Gregal** (Gregale) Wind – a strong and cold wind that blows from the northeast in the western and central Mediterranean region, mainly in winter.
- **The tramontana** is a cold wind from the north or northeast tinged with frigid air from the Alps and northern Apennines, particularly to the west coast of Italy and Northern Corsica.
- **Hence option (d) is the correct answer.**



Q 28.D

- The origin of the institution of Speaker in India dates back to **1921** when the Central legislative Assembly was first constituted under the **Montague-Chelmsford Reforms.**
- **Prior to 1921**, the **Governor-General of India used to preside over the sittings of the Legislative Council. Hence statement 1 is correct.**
- **Sir Frederick Whyte** was **appointed by the Governor-General as the first Speaker** of the Assembly on 3 February 1921 for a period of four years. **Hence statement 2 is correct.**
- **Shri Vithalbhai J. Patel** was the **first non-official** to be **elected** as the Speaker of the Assembly on 24 August 1925. He was reelected on 20 January 1927 and remained in his office till he resigned on 28 April 1930.

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  - **Shri Patel had the distinction of being the first Indian and the first elected Speaker of the Central Legislature. Hence statement 3 is correct.**
- **Shri G.V. Mavalankar** was chosen as the first Speaker of the first Parliament constituted after the first general elections after independence. He had, however, held the same office in the Constituent Assembly (legislative) and continued as the Speaker of the Provisional Parliament on the commencement of the Constitution.

Q 29.A

- **Peer to peer (P2P) lending is a form of crowdfunding used to raise unsecured loans which are re-paid with interest. The borrower could be an individual or a legal person (such as a company). Hence statement 1 is correct.**
- The companies generally follow a reverse auction model in which the lender's bids for a borrower's loan proposal and the borrower has the freedom to either accept or reject the same.
- The minimum net worth requirement for these platforms is kept at Rs. 2 Cr. The borrower can either be an individual or a legal person (say a body of individuals, a HUF, a firm, a society or any artificial body, whether incorporated or not) requiring a loan.
- RBI vide a Notification on 24th August 2017, **enabled P2P entities as Non-Banking Financial Company (NBFC). However, an existing NBFC will not be able to operate as an NBFC-P2P. Hence statement 2 is not correct.**
- As per this Notification, P2P lending platform shall mean the business of providing under a contract, the service of loan facilitation, via online medium or otherwise, to the participants who have entered into an arrangement with that platform to lend on it or to avail of loan facilitation services provided by it.
- As per RBI's Directions, **these P2P platforms are to act as intermediaries providing an online platform to the participants. However, they are not allowed to raise deposits, provide loans, provide any credit enhancement or credit guarantee or facilitate or permit any secured lending. Hence statement 3 is not correct.**
- Further, the platforms are also not permitted to hold, on their balance sheet, funds received from lenders for lending, or funds received from borrowers for servicing loans. In addition, the platforms are also prohibited from permitting any international flow of funds.
- **The responsibilities of these platforms, as stated in RBI's Directions, include the following:**-To undertake due diligence on the participants.-To undertake credit assessment and risk profiling of the borrowers and disclose the same to their prospective lenders.-To receive prior and explicit consent of the participant to access its credit information.-To undertake documentation of loan agreements and other documents.-To provide assistance in disbursement and repayment of the loan amount.-To facilitate recovery of loans originating on the platform (by using fair means).

Q 30.C

- The expression 'contempt of court' has not been defined by the Constitution.
- **The Contempt of Court Act, 1971 defines both civil and criminal contempt. Hence statement 2 is not correct.**
  - Civil contempt refers to the wilful disobedience of an order of any court.
  - Criminal contempt includes any act or publication which:
    - 'scandalises' the court, or
    - prejudices any judicial proceeding, or
    - interferes with the administration of justice in any other manner. 'Scandalising the Court' broadly refers to statements or publications which have the effect of undermining public confidence in the judiciary.
- **The superior courts (Supreme Court and High Courts) derive their contempt powers from the Constitution. The Act only outlines the procedure in relation to investigation and punishment for contempt.** Therefore, deletion of the offence from the Act will not impact the inherent constitutional powers of the superior courts to punish anyone for its contempt. These powers will continue to remain, independent of the 1971 Act. **Hence statement 1 is not correct.**
  - **Article 142 (2)** states that "subject to the provisions of any law made in this behalf by Parliament" the Supreme Court shall have all and every power to make any order on punishment of any contempt of itself.
    - However, **Article 129** lays down that the Supreme Court shall be a court of record, and shall have all the powers of such a court, including the power to punish for contempt.
- Every case of criminal contempt under section 15 of the Act shall be heard and determined by a Bench of not less than two judges. **Hence statement 3 is correct.**

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Q 31.A

- **Food Insecurity Experience Scale (FIES) is an experience-based measure of household or individual food security. Hence statement 1 is correct.**
- The FIES Survey Module (FIES-SM) consists of eight questions regarding people's access to adequate food and can be easily integrated into various types of population surveys
- The FIES-SM questions refer to the experiences of the individual respondent or of the respondent's household as a whole. The questions focus on self-reported food-related behaviours and experiences associated with increasing difficulties in accessing food due to resource constraints.
- It also contains the Household Hunger Scale (HHS), the Household Food Insecurity Access Scale (HFIAS), and the Latin American and Caribbean Food Security Scale (ELCSA).
- **The FIES was developed by the Food and Agriculture Organization (FAO) through the Voices of the Hungry (VoH) project, building on the pioneering work of the HFIAS and the ELCSA. Hence statement 2 is not correct**

Q 32.D

- Article 21 declares that no person shall be deprived of his life or personal liberty except according to procedure established by law. **This right is available to both citizens and non-citizens.**
- **It is available only against the state, not available against the private individuals.**
- In the famous **Gopalan case (1950)**, the Supreme Court has taken a narrow interpretation of the Article 21. It held that the protection under Article 21 is available only against arbitrary executive action and not from arbitrary legislative action. This means that the State can deprive the right to life and personal liberty of a person based on a law, it also held that the 'personal liberty' means only liberty relating to the person or body of the individual. This is because of the expression 'procedure established by law' in Article 21.
- In **Menaka case (1978)**, the Supreme Court overruled its judgement in the Gopalan case by taking a wider interpretation of the Article 21. Therefore, it ruled that the right to life and personal liberty of a person can be deprived by a law provided the procedure prescribed by that law is reasonable, fair and just. In other words, it has introduced the American expression 'due process of law'. In effect, the protection under **Article 21 should be available not only against arbitrary executive action but also against arbitrary legislative action.**
- The Supreme Court also held that the 'right to life' as embodied in Article 21 is not merely confined to animal existence or survival but it includes within its ambit the right to live with human dignity and all those aspects of life which go to make a man's life meaningful, complete and worth living.
  - **In Aruna Shanbaug case (2018) SC also recognised the right to die with dignity as a fundamental right and allowed the passive euthanasia not active euthanasia.**
- Award of compensation is an appropriate and effective remedy for redress of an established infringement of a fundamental rights under Article 21 of the Constitution.
  - However in **Vibin P.V. v. State of Kerala**, court clarified that there is **no express provision in the Constitution of India for grant of compensation by the State for the infringement of right to life and personal liberty under Article 21 of the Constitution. Hence option (d) is the correct answer.**

Q 33.C

- The Reserve Bank of India (RBI) has come out with the framework under the Payments and Settlements Systems Act, 2007 for facilitating small-value digital payments in offline mode, a move that would promote digital payments in semi-urban and rural areas.
- **Offline digital payment** refers to transactions that do not require Internet or telecom connectivity to take effect. Such payments can be carried out face-to-face (proximity mode) using any **channel or instrument like cards, wallets, and mobile devices. Hence statement 1 is correct**
- **There is a limit of ₹200 per transaction** and an overall limit of ₹2,000 until the balance in the account is replenished. Such transactions would not require an Additional Factor of Authentication. **Hence statement 2 is correct**
- The customers shall have **recourse to the Reserve Bank – Integrated Ombudsman Scheme, as applicable, for grievance redressal.** RBI retains the right to stop or modify the operations of any such payment solution that enables small value digital payments in offline mode. **Hence statement 3 is correct**

Q 34.A

- On the heels of the success of Bardoli Satyagraha, the 1928 Calcutta Congress Session witnessed Gandhi's re-emergence as a National Leader. The raging issue at the time of this session was the Nehru Report

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which proposed a dominion status for India. **The Calcutta Session of 1928 was presided over by Motilal Nehru. Hence option (a) is the correct answer.**

- This recommendation of the Nehru report was opposed by a radical younger group led by Jawaharlal Nehru and Subhas Chandra Bose. Both were in favor of complete independence.
- **But Mahatma Gandhi proposed a compromise resolution, which adopted the Nehru report but said that if the government did not accept it by December 1929, the congress would go in for a non-cooperation movement to achieve full independence.** At this session **(of 1928**), Mahatma Gandhi also had a second resolution passed which contained a detailed program of constructive work. It involved revival of organizational work, removal of untouchability, the boycott of foreign cloth, the spread of Khadi, village reconstruction, and removal of disabilities on women.

Q 35.D

- Pietra dura in Indo-Islamic architecture is a term for the inlay technique of using cut and fitted, highly polished, and semi-precious coloured stones to create images. It is a type of decorative art employed widely in the Mughal era.
- **Itmad-ud-Daula Tomb** was commissioned by Nur Jahan, the wife of Jahangir, for her father Mirza Ghiyas Beg.
  - It belongs to the domeless class of the Mughal sepulchral architecture and introduces a whole range of innovations such as adjoined towers and profuse and elaborate decorative techniques unseen in Islamic India at that time.
  - **The tomb is famous for the glorious pietra dura (stone inlay) decoration depicting cypresses, wine glasses, and an amazing variety of geometrical arabesque.**
- **Humayun's tomb** is the tomb of the Mughal Emperor Humayun. It was built in 1570. It was the first garden tomb on the Indian subcontinent.
  - This is considered as the Jewel of Mughal architecture for its intense pietra dura inlay work.
  - **Pietra dura inlay patterns can be observed over the entrance iwan, the chhatris, small minarets of the Tomb.**
- **Taj Mahal** was built in Agra between 1631 and 1648 by order of the Mughal emperor Shah Jahan in memory of his wife Mumtaz Mahal. The Taj Mahal is considered to be the greatest architectural achievement in the whole range of Indo-Islamic architecture.
  - Ustad-Ahmad Lahori was the main architect of the Taj Mahal.
  - **Numerous floral and geometric patterns of pietra dura work can be observed in the Taj Mahal.**
- **Hence, option (d) is the correct answer.**

Q 36.C

- **Prarthana Samaj was a Hindu reform society established in Bombay in 1867 by Atmaram Pandurang.** In purpose, it is similar to, but not affiliated with, the more widespread Brahmo Samaj and had its greatest sphere of influence in and around Maharashtra state**. Hence statement 1 is correct.**
  - **Though less confrontational than Brahmo Samaj towards social issues Prarthana Samaj was not a revivalist society.**
- Though Atmaram Pandurang was the founder, M.G. Ranade was the real spirit behind Prarthana Samaj and was assisted by Bhandarkar, N.G Chandavarkar, etc.
- The aim of the Prarthana Samaj is the promulgation of theistic worship and social reform, and its early goals were in opposition to the caste system, the introduction of widow remarriage, the encouragement of female education, and the abolition of child marriage.
- The immediate predecessor of the Prarthana Samaj in Bombay was the Paramahamsa Sabha, a secret society formed in 1849 for discussion, the singing of hymns, and the sharing of a communal meal prepared by a low-caste cook.
- **The Prarthana Samaj differed from Brahmo Samaj by its greater reluctance to break with orthodox Hindu tradition, and the Prarthana Samaj never required members to give up caste, idol worship, or the traditional religious sacraments. Hence statement 2 is correct.**
- Activities of the Prarthana Samaj include study groups, a journal, night schools for working people, free libraries, women's and student associations, and an orphanage. Its members were instrumental in the organization of other important social-reform movements that arose at the turn of the century, including the Depressed Classes Mission Society of India and the National Social Conference.

Q 37.A

- Recently, the Union Ministry of Environment, Forests and Climate Change (MoEFCC) released the India State of Forest Report-2021.

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- **Madhya Pradesh has the largest forest cover in the country followed by Arunachal Pradesh, Chhattisgarh, Odisha and Maharashtra.**
- **Hence option (a) is the correct answer.**

Q 38.B

- The Lok Sabha is not a continuing chamber. Its normal term is **five years from the date of its first meeting after the general elections**, after which it automatically dissolves. However, the President is authorised to dissolve the Lok Sabha at any time even before the completion of five years. **Hence statement 1 is not correct.**
  - The term of the Lok Sabha can be extended during the period of national emergency be a law of Parliament for one year at a time for any length of time. However, this extension cannot continue beyond a period of six months after the emergency has ceased to operate.
- **Committee on Private Members' Bills and Resolutions:**
  - This committee classifies bills and allocates time for the discussion on bills and resolutions introduced by private members (other than ministers). This is a special committee of the Lok Sabha and consists of 15 members including the Deputy Speaker as its chairman. The Rajya Sabha does not have any such committee. The same function in the Rajya Sabha is performed by the Business Advisory Committee of that House. **Hence statement 2 is not correct.**
- **Article 253: The Parliament can make laws on any matter in the State List for implementing the international treaties, agreements or conventions.** This provision enables the Central government to fulfil its international obligations and commitments without the consent of any State. **Hence statement 3 is correct.**
  - Some examples of laws enacted under the above provision are United Nations (Privileges and Immunities) Act, 1947; Geneva Convention Act, 1960; Anti-Hijacking Act, 1982 and legislations relating to environment and TRIPS.

Q 39.C

- **Article 245. Extent of laws made by Parliament and by the Legislatures of States:**
  - Subject to the provisions of this Constitution, Parliament may make laws for the whole or any part of the territory of India, and the Legislature of a State may make laws for the whole or any part of the State.
  - **No law made by Parliament shall be deemed to be invalid on the ground that it would have extra-territorial operation. Hence statement 2 is correct.**
    - Supreme Court in a case held that a law that has extra-territorial operation cannot directly be enforced in another State but such a law is not invalid and saved by article 245(2) of the Constitution.
- Supreme Court in Keshavlal Khemchand & Sons Pvt. Ltd. v. Union of India case clarified that defining every word employed in a statute is not a part of the essential legislative function. It is not necessary that Legislature should define every expression it employs in a statute.
- The Constitutional validity of law is to be decided as per societal conditions prevalent at the relevant time. The changed social psyche and expectations are important factors to be considered in the upkeep of law. **Hence statement 1 is correct.**

Q 40.C

- **NITI Aayog and World Resources Institute(WRI),** India, have jointly launched the 'Forum for Decarbonizing Transport' in India as part of the NDC-Transport Initiative for Asia (NDC-TIA) project.
- The project aims at **bringing down the peak level of Green House Gas emissions** (transport sector) in Asia (in line with a well below 2-degree pathway), resulting in problems like congestion and air pollution.
- Through this forum, the WRI India team, along with NITI Aayog and other project partners, will work in close coordination with all the stakeholders to formulate strategies and develop appropriate business models to **accelerate electric mobility in India**.
- The forum will also provide a platform to initiate dialogues for the development of uniform policies and help achieve specific results in reducing emissions from the transport sector.
- **Hence option (c) is the correct answer.**

Q 41.B

- **The salient features of the Lokpal and Lokayuktas Act (2013) are as follows:**
  - It seeks to establish the institution of the Lokpal at the Centre and the Lokayukta at the level of the State and thus seeks to provide a uniform vigilance and anti-corruption road map for the nation both at the Centre and at the States.

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- The jurisdiction of Lokpal includes the Prime Minister, Ministers, Members of Parliament and Groups **A, B, C and D officers and officials** of the Central Government. **Hence statement 3 is not correct.**
- The Lokpal to consist of a Chairperson with a maximum of 8 members of which 50% shall be judicial members.
- 50% of the members of the Lokpal shall come from amongst the SCs, the STs, the OBCs, minorities and women.
- The selection of the Chairperson and the members of Lokpal shall be through a Selection Committee consisting of the Prime Minister, the Speaker of the Lok Sabha, the Leader of the Opposition in the Lok Sabha, the Chief Justice of India or a sitting Supreme Court Judge nominated by the Chief Justice of India and an eminent jurist to be nominated by the President of India on the basis of recommendations of the first four members of the selection committee.
- The Lokpal will have the power of superintendence and direction over any investigating agency, including the CBI, for cases referred to them by the Lokpal.
- It provides adequate protection for honest and upright public servants.
- **All entities receiving donations from foreign source in the context of the Foreign Contribution Regulation Act (FCRA) in excess of Rs.10 lakhs per year are brought under the jurisdiction of Lokpal. Hence statement 2 is correct.**
- **Lokpal cannot suo motu proceed against any public servant. Hence statement 1 is correct.**
- Anonymous complaints not allowed – Can't just make a complaint on plain paper and drop it in a box with supporting documents.

Q 42.A

- In a maiden effort, the Rajya Sabha secretariat in a 118-page publication with 29 chapters quantifies and analyses the legislative work done by the House since its inception that will serve as a testament to the indispensable role of Rajya Sabha in fulfilling the principles enshrined in the Constitution and upholding democracy in India.
- Here are some unique events relating to Rajya Sabha listed in the catalog:
  - **Casting vote by the Chair: The first and the only time** when a **Presiding Officer of Rajya Sabha** cast his vote was when the Panel Chairman Shri M.A.Baby did so on 5th Aug 1991 when the voting was tied 39-39 on the Statutory Resolution moved by the opposition seeking disapproval of the Code of Criminal Procedure (Amendment) Ordinance resulting in the victory of the opposition in the House. **Hence statement 1 is correct.**
  - **President Rule approved only by Rajya Sabha:** It happened **only twice** in respect of extension of President Rule in Tamilnadu and Nagaland in 1977 and in case of Haryana in 1991 when Lok Sabha was dissolved.
  - **Removal of a Judge:** The only time Rajya Sabha adopted a motion for removal of a Judge was in respect of Justice Soumitra Sen of Calcutta High Court on 18.8.2011 but he resigned before the motion was taken up in Lok Sabha. **Hence statement 2 is not correct.**
  - **Expulsion of members:** Rajya Sabha adopted a motion on 15.11.1976 for the expulsion of Dr.Subramanian Swamy whose conduct and activities were found by a Committee to be derogatory to the dignity of the House and it's members. Dr.Chatrapal Singh was expelled on 23.11.2005 after Ethics Committee found him guilty of accepting money for asking questions. Dr.Swami Sakhsi Ji Maharaj was expelled on 21.3.2006 for irregularities in recommending projects under the MPLAD scheme.
  - **Reprimand**: Former Member of Rajya Sabha Shri K.K.Tiwari was summoned to the Bar of the House and was reprimanded on 1.6.1990 for a statement published in newspapers the same day that brought the office of Chairman and the House to indignity and contempt.
  - **Bill passed by Rajya Sabha but negative by Lok Sabha:** The Constitution (Sixty-fourth Amendment) Bill, 1990 seeking to amend Article 356 relating to the extension of President's Rule in Punjab.

Q 43.B

- **Statement 1 is not correct: Any household wastewater, including water from washing machines, dishwashers, baths, and sinks is greywater provided it doesn't get into contact with sewer is known as grey water.** It makes 50% to 80% of the wastewater from a household. Since greywater contains nutrients from soap and other residues, it can be treated and reused to nourish the soil, which in turn produces lush and healthy plants.
- **Statement 2 is correct:** Jal Jeevan Mission, is envisioned to provide safe and adequate drinking water through individual household tap connections by 2024 to all households in rural India. **The programme**

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will also implement source sustainability measures as mandatory elements, such as recharge and reuse through grey water management, water conservation, rain water harvesting.

Q 44.C

- **Zero Budget Natural Farming (ZBNF)** is a type of farming that **promotes chemical-free agricultural practices**. It was originally introduced by agriculturist **Subhash Palekar** in the mid-1990s as an alternative to the Green Revolution methods such as the adoption of high yield variety seeds and use of inorganic fertilisers and pesticides.
- **ZBNF is based on four pillars:**
- **JEEVAMRITA**- It is a fermented microbial culture. It provides nutrients, but most importantly, acts as a catalytic agent that promotes the activity of microorganisms in the soil
- **BEEJAMRITA**- It is a treatment used for seeds, seedlings or any planting material. Bijamrita is effective in protecting young roots from fungus as well as from soil-borne and seed- borne diseases that commonly affect plants after the monsoon period. It is composed of similar ingredients as jeevamrutha - local cow dung, a powerful natural fungicide, and cow urine, a strong anti-bacterial liquid, lime, soil.
- **ACCHADANA**- It includes three types of mulching
  - **Soil Mulch:** This protects topsoil during cultivation and does not destroy it by tilling. It promotes aeration and water retention in the soil.
  - **Straw Mulch:** Straw material usually refers to the dried biomass waste of previous crops, or it can be composed of the dead material of any living being (plants, animals, etc).
  - **Live Mulch:** It involve multiple cropping patterns grown in the same field, to supply all essential elements to the soil and crops.
- **WAAPHASA**- It is the condition where there are both air molecules and water molecules present in the soil. It challenges the idea that plant roots need a lot of water, thus countering the over reliance on irrigation in green revolution farming.
- **Hence option (c) is the correct answer.**

Q 45.C

- Recently, the Ministry of Jal Shakti (MoJS) released an atlas of glacial lakes that are part of the Ganga River basin.
- The Ganges River originates in the Himalaya Mountains at Gomukh, the terminus of the Gongotri Glacier. When the ice of this glacier melts, it forms the clear waters of the Bhagirathi River. As the Bhagirathi River flows down the Himalayas, it joins the Alaknanda River, officially forming the Ganges River.
- The Ganga River basin extends over Central Himalayas in **India, Nepal, Tibet (China), and Bangladesh. Hence statement 1 is not correct.**
- It contains 9 of the 14 highest peaks in the world over 8,000 m in height, including Mt. Everest. Other peaks over 8,000 m in the basin are Kanchenjunga, Lhotse, Makalu, Cho Oyu, Dhaulagiri, Manaslu, Annapurna, and Shishapangma.
- In total, Ganga has 11 basin states - Uttar Pradesh, Madhya Pradesh, Rajasthan, Bihar, West Bengal, Uttarakhand, Jharkhand, Haryana, Chhattisgarh, Himachal Pradesh and Delhi.It is the biggest river basin in the country draining an araea of 8,61,452 sq.km. which is slightly more than one fourth (26.3%) of the total geographical area of the country.Ganga basin is bounded by the Himalayas on the north, by the Aravalli on the west, by the Vindhyas and Chottanagpur plateau on the south and by the Brahmaputra Ridge on the east. **Hence statement 2 is not correct.**
- Climate over the Ganga River basin is mainly tropical and subtropical to temperate subhumid on the plains.

Q 46.D

- Lack's principle, proposed by the British ornithologist David Lack in 1954, states that "**the clutch size of each species of bird has been adapted by natural selection to correspond with the largest number of young for which the parents can, on average, provide enough food". Hence option (d) is the correct answer.**
- **Lack's Principle** refers to a biological principle which states that natural selection regulates the number of offspring to which a bird species gives birth to be in line with the number of offspring that the parents of the offspring can successfully nest and protect.
- A clutch size in excess of the parents' ability to successfully feed and protect would reduce the number of offspring that can grow into healthy adults.

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- The principle has been applied by other scientists to explain the population dynamics witnessed in other plants and animals.

Q 47.D

- There are various factors that have led to the discolouration of the Taj Mahal.
  - **Firstly, the polluting industries and the vehicular emissions in the Taj Trapezium Zone (TTZ) area are major source of pollution.**
  - The second reason is that the **Yamuna river, which flows behind the Taj, has become highly polluted**.
    - There is no aquatic life in it and has caused insect and algae infestation on the Taj Mahal and other monuments situated on its banks.
  - **Petha production in Agra also leaves behind waste and pollution.**
    - Making petha entails boiling water and coal is invariably the preferred fuel for most units.
    - This also leads to discolouration of the Taj Mahal.
- **Hence option (d) is the correct answer.**

Q 48.B

- The high court has been vested with quite extensive and effective powers like the Supreme Court. It is the highest court of appeal in the state. It is the protector of the Fundamental Rights of the citizens. It is vested with the power to interpret the Constitution. Besides, it has supervisory and consultative roles.
- However, the Constitution does not contain detailed provisions with regard to the jurisdiction and powers of a high court.
- The present jurisdiction and powers of a high court are governed by
  - the Constitutional provisions,
  - the Letters Patent,
  - the Acts of Parliament,
  - the Acts of State Legislature, (e) Indian Penal Code, 1860,
  - Criminal Procedure Code, 1973, and
  - Civil Procedure Code, 1908.
- Original Jurisdiction: It means the power of a high court to hear disputes in the first instance, not by way of appeal. **The High Court exercise original jurisdiction under Article 226** of the Constitution and supervisory jurisdiction and the power of Superintendence under Article 227 of the Constitution. **Hence option (b) is the correct answer.**
- Article 105: It provides for powers, privileges, etc of the Houses of Parliament and of the members and committees of the Parliament.
- Article 142: It is related to the powers of the Supreme Court
- Article 148: There shall be a Comptroller and Auditor-General of India who shall be appointed by the President by warrant under his hand and seal and shall only be removed from office in like manner and on like grounds as a Judge of the Supreme Court.

Q 49.B

- GFEI is a global partnership of expert groups that have come together to support governments around the world to set policies for cleaner and more efficient vehicles.
- **The Global Fuel Economy Initiative promotes the introduction of cleaner, more energy-efficient vehicles in developing and transitional countries.** While most developed countries have auto fuel efficiency policies in place, very few developing and emerging economies have formally adopted such standards. **Hence, statement 1 is not correct.**
- The objective of the GFEI is to help stabilize greenhouse gas emissions from the global light duty vehicle fleet through **a 50 per cent improvement of vehicle fuel efficiency worldwide by 2050. Hence, statement 2 is correct.**
- The Global Fuel Economy Initiative is a collaboration between six of the world's leading transport and energy organisations. These include UN Environment, the International Energy Agency, the University of California at Davis, the International Council on Clean Transportation, the International Transport Forum and the FIA Foundation. **Hence, statement 3 is not correct.**

Q 50.A

- Scientists have found **sandstones in Singhbhum region** with geological signatures of ancient river channels, tidal plains and beaches over 3.2 billion years old, representing the earliest crust exposed to air. Patches of the earliest continental land exist in Australia and South Africa too however **the rocks of**

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Singhbhum region are very old and were formed in ancient rivers, beaches, and shallow seas. All these water bodies could have only existed if there was continental land.

- **Scientists found the age by analysing the uranium and lead contents of tiny minerals.** The researchers studied the granites that form the continental crust of Singhbhum region. These granites are 3.5 to 3.1 billion years old and formed through extensive volcanism that happened about 35-45 km deep inside the Earth and continued on-and-off for hundreds of millions of years until all the magma solidified to form a thick continental crust in the area. Due to the thickness and less density, the continental crust emerged above surrounding oceanic crust owing to buoyancy.

Q 51.C

- **The Constitution lays down the following conditions of the President's office:**
  - He should not be a member of either House of Parliament or a House of the state legislature. If any such person is elected as President, he is deemed to have vacated his seat in that House on the date on which he enters upon his office as President.
  - He should not hold any other office of profit.
  - He is entitled, without payment of rent, to the use of his official residence the Rastrapathi Bhavan).
  - **He is entitled to such emoluments, allowances and privileges as may be determined by Parliament and are not mentioned in the Constitution.**
    - **His emoluments and allowances cannot be diminished during his term of office. Hence statement 2 is not correct.**
  - In 2008, the Parliament increased the salary of the President from Rs.50,000 to Rs.1.50 lakh per month and the pension to 50% of his salary per month. In addition, the former Presidents are entitled to furnished residence, phone facilities, car, medical treatment, travel facility, secretarial staff and office expenses upto Rs. 60,000 per annum.
  - The spouse of a deceased President is also entitled to a family pension at the rate of 50% of pension of a retired President, furnished residence, phone facility, car, medical treatment, travel facility, secretarial staff and office expenses upto Rs.12,000 per annum.
    - **His pensions are charged on the Consolidated Fund of India. Hence statement 3 is correct.**
  - The President is entitled to a number of privileges and immunities.
    - He enjoys personal immunity from legal liability for his official acts. During his term of office, he is **immune from any criminal proceedings,** even in respect of his personal acts. He cannot be arrested or imprisoned. However, after giving two months' notice, **civil proceedings can be instituted against him during his term of office in respect of his personal acts. Hence statement 1 is not correct.**

Q 52.A

- **Landsat 9 is a partnership between the National Aeronautics and Space Administration (NASA) and the U.S. Geological Survey (USGS)** and will continue the Landsat program's critical role of repeat global observations for monitoring, understanding, and managing Earth's natural resources. Landsat 9 satellite was successfully launched recently in September 2021 from Vandenberg Space Force Base in California. **The satellite will monitor the Earth's land surface and provide data to assist in climate change planning.** The **launch marks nearly 50 years of Landsat's presence in space. The first launch was in 1972 – since then, a Landsat has always remained in orbit.** The Landsat 9 will join previously-launched Landsat 8 to collect images across Earth every eight days. These images assist research on monitoring forests, agriculture, quality of water, the health of coral reef habitats, and the behavior of glaciers. The **instruments aboard Landsat 9 – the Operational Land Imager 2 (OLI-2) and the Thermal Infrared Sensor 2 (TIRS-2) – measure 11 wavelengths of light reflected or radiated off Earth's surface,** in the visible spectrum as well as other wavelengths beyond what our eyes can detect. As the satellite orbits, these instruments will capture scenes across a swath of 185 kilometers. The recent launch gains significance in the light of the heightened awareness of climate change incidents and the increase in extreme climate events like wildfires, floods, and melting of glaciers. **Hence option (a) is the correct answer**

Q 53.C

- ECGC Ltd. (Formerly Export Credit Guarantee Corporation of India Ltd.) is essentially an export promotion organization that seeks to improve the competitiveness of the Indian exporters by providing them with credit insurance covers. With the objective of promoting exports from the country, it was set up in 1957 to provide Credit Risk Insurance and related services for exports. It is managed by a Board of Directors comprising representatives of the Government, Reserve Bank of India, banking, and insurance

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and exporting community and functions under the administrative control of the Ministry of Commerce & Industry.

- It is wholly owned by the Government of India to provide credit risk insurance covers to exporters against loss in export of goods and services.
- **Statement 1 is correct:** It functions under the administrative control of the Ministry of Commerce & Industry.
- **Statement 2 is correct:** It Makes it easy to obtain export finance from banks or other financial institutions by offering Export Credit Insurance covers to the banks to enable exporters to obtain better facilities from them. It also offers insurance protection to exporters against payment risks.

Q 54.D

- Recently, the **Insurance Regulatory and Development Authority of India (IRDAI) has unveiled the guidelines to facilitate the launch of various types of surety bonds in the country.** The guideline has come in the backdrop of a request made by the Ministry of Road Transport and Highways last year to examine the possibility of offering surety bonds by general insurance companies.
- Surety bonds protect the beneficiary against acts or events which impair the underlying obligations of the principal. Surety bonds guarantee the performance of a variety of obligations, from construction or service contracts to licensing and commercial undertakings.
- It is a three-party contract in which one party (the surety) guarantees the performance or obligations of a second party (the principal) to a third party (the obligee). **A surety bond is provided by the insurance company on behalf of the contractor to the entity, which is awarding the project. Hence statement 1 is not correct**
- When a principal breaks a bond's terms, the harmed party can make a claim on the bond to recover losses. It can effectively replace the system of bank guarantees, issued by banks for projects, and help reduce risks due to cost overrun project delays, and poor contract performance.
- According to the guidelines, the premium charged for all surety insurance policies underwritten in a financial year, should not exceed 10 percent of the total gross written premium of that year, subject to a maximum of Rs 500 crore.
- The limit of guarantee should not exceed 30 percent of the contract value. Surety Insurance contracts should be issued only to specific projects and not clubbed for multiple projects.
- The surety contracts will include advance payment bonds, bid bonds, contract bonds, customs, and court bonds, performance bonds, and retention money.
- **Surety insurance contracts shall be issued only to specific projects and not clubbed for multiple projects** and the insurer shall not issue any surety insurance contracts on behalf of its promoters/their subsidiaries, groups, associates, and related parties. **Hence statement 2 is not correct**

Q 55.A

- **Sikkim, in 1998 became the first Indian state to ban disposable plastic bags,** and is also among the first to target single-use plastic bottles.
- In 2016, Sikkim took two major decisions.
  - It banned the use of packaged drinking water in government offices and government events.
  - Second, it banned the use of Styrofoam and thermocol disposable plates and cutlery in the entire state in a move to cut down toxic plastic pollution and tackle its ever-increasing garbage problem.
- **The Sikkim tourism board has announced to ban the use of plastic from the new year 2022, including packaged mineral water bottles.**
- **Hence option (a) is the correct answer.**

Q 56.B

- **Recently, World Health Organisation's new air quality guidelines, Global Air Quality Guidelines (AQGs) were released in 2021.**
- The WHO's new air quality guidelines, Global Air Quality Guidelines (AQGs) has redefined the threshold of safe air.
- This is the first revision after the last updation in 2005.
- **WHO's new guidelines recommend air quality levels for 6 pollutants,** where evidence has advanced the most on health effects from exposure.
- These are **Particulate Matter (PM 2.5 AND PM 10), ozone (O_3), nitrogen dioxide (NO_2) sulfur dioxide (SO_2) and carbon monoxide (CO).**
- The annual average for PM2.5 should not exceed 5 micrograms per cubic metre of air, while the 24-hour average should not exceed 15 micrograms per cubic metre.

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- The annual average for PM 10 should not exceed 15 micrograms per cubic metre of air, while the 24-hour average should not exceed 45 micrograms per cubic metre. The ozone levels average should not exceed 100 micrograms per cubic metre over a 24-hour period.
- The nitrogen oxide levels should not exceed 25 micrograms per cubic metre over a 24-hour period. The sulphur dioxide levels should not exceed 40 micrograms per cubic metre over a 24-hour period. The carbon monoxide levels should not exceed 4 micrograms per cubic metre over a 24-hour period.
- **Hence, option (b) is the correct answer.**

Q 57.C

- In the Article 244(1) of the Constitution, expression Scheduled Areas means such areas as the President may by order declare to be Scheduled Areas.
- **The President may at any time by order**
  - direct that the whole or any specified part of a Scheduled Area shall cease to be a Scheduled Area or a part of such an area;
  - **increase the area of any Scheduled Area in a State after consultation with the Governor of that State;**
  - alter, but only by way of rectification of boundaries, any Scheduled Area;
  - on any alteration of the boundaries of a State on the admission into the Union or the establishment of a new State, declare any territory not previously included in any State to be, or to form part of, a Scheduled Area;
  - rescind, in relation to any State of States, any order or orders made under these provisions and in consultation with the Governor of the State concerned, make fresh orders redefining the areas which are to be Scheduled Areas.
- **The criteria followed for declaring an area as Scheduled Area are**
  - preponderance of tribal population;
  - compactness and reasonable size of the area;
  - under-developed nature of the area; and
  - marked disparity in economic standard of the people.
- Fifth Schedule of Indian Constitution provides for establishment of a Tribes Advisory Council (TAC) in any State having Scheduled Areas. If the President so directs, there will be established a TAC **in a State having Scheduled tribes but not Scheduled Areas therein**, consisting of not more than twenty members of whom, three-fourths shall be the representatives of the Scheduled Tribes in the Legislative Assembly of the State.
- **Currently, 10 States namely** Andhra Pradesh, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, Rajasthan and Telangana have Fifth Schedule Areas. **Hence option (c) is the correct answer.**
- **Amendment of the Fifth Schedule:**
  - Parliament may from time to time by law amend by way of addition, variation or repeal any of the provisions of this Schedule and, when the Schedule is so amended, any reference to this Schedule in this Constitution shall be construed as a reference to such Schedule as so amended. **However, no such law shall be deemed to be an amendment of this Constitution for the purposes of Article 368.**

Q 58.A

- **Originally named Shridhar Balwant Jodhpurkar, Baba Ramchandra was born in a small village in Gwalior Estate (1864). Concealing his identity as a Maharashtrian Brahmin, he stayed for about 13 long years in Fiji as an indentured labourer and mobilized indentured labourers for their emancipation.**
- Upon being called back in 1917 by Bal Gangadhar Tilak, he returned to India. In order to seek resolution of their grievances, a Kisan Sabha was formed at the Pratapgarh district, with Baba Ramchandra as the leader. His activities were noticed by the British authorities and he was warned to stop his agrarian propaganda. Ramchandra, on the other hand, sought to broaden the movement and link it to the national freedom movement.
- **Later in Awadh district of United Provinces, Baba Ramchandra organized a peasant militancy from 1918-19 against the oppressive taluqdars which was harnessed by the UP Kisan Sabha which was formed in 1918.**
  - The Kisan movement under Baba Ramchandra was basically a tenant and small zamindars' movement against big landlords and taluqdars. The movement developed a 14 demands-cum-oath charter known as the 'Kisan Pledge', which every participant was expected to take an oath on. Among other things,

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the demand charter included the refusal to pay more than the recorded rent, receipts for the rents paid, refusal to do begari and pay nazrana etc.

- His unique methodology of peasant mobilization constituted recitation of Ramcharitmanas of Tulsidas.
- His love for the peasantry and sympathy for their cause is reflected in the last line of his correspondence, wherein he signed himself as Oudh Kisan Sevak. He was imprisoned on several occasions for carrying out anti-government activities.
- **Hence, option (a) is the correct answer.**
- **Additional Information**
- **Sahajanand Saraswati** was an ascetic, a nationalist and a peasant leader of India. His social and political activities focussed mostly on Bihar in the initial days. **He was the founder of All India Kisan Sabha.**
  - Saraswati organized the Bakasht Movement in Bihar from 1937 to 1938. "Bakasht" means self-cultivated. The movement was against the eviction of tenants from Bakasht lands by zamindars and led to the passing of the Bihar Tenancy Act and the Bakasht Land Tax.
  - He also led the successful struggle in the Dalmia Sugar Mill at Bihta, where peasant-worker unity was the most important characteristic.
- **Gogineni Ranga Nayukulu**, **better known as N. G. Ranga** was an Indian freedom fighter, parliamentarian, and Kisan (farmer) leader. He was an exponent of the peasant philosophy and considered the father of the Indian Peasant Movement after Swami Sahajanand Saraswati.
  - Ranga joined the freedom movement inspired by Mahatma Gandhi's clarion call in 1930. He led the ryot agitation in 1933. Three years later, he launched the Kisan Congress party. He held historic discussions with Gandhiji on the demand for a rythu-coolie state. He wrote a book, 'Bapu Blesses' regarding his discussions with Gandhi.
  - Ranga was one of the founders of the Congress Socialist Party and was a member of its National Executive and drafting Committee in 1934. After joining the Congress party Ranga was very active politically both at centre and state level.
  - **He was the first general secretary of All India Kisan Sabha.**
- **Indulal Kanaiyalal Yagnik** (1892 –1972) was an Indian independence activist, a leader of the All India Kisan Sabha and one who led the Mahagujarat Movement, which spearheaded the demand for the separate statehood for Gujarat on 8 August 1956.

Q 59.C

- **Natya Shastra of Bharata is another important landmark in the history of Indian music.** It is supposed to have been written sometime between the 2nd century B.C. and the 2nd century A.D. **The Natya Shastra is a comprehensive work mainly dealing with dramaturgy.**
- In the Natya Shastra musical instruments have been divided into four main categories on the basis of how sound is produced.
  - **The Tata Vadya - Stringed instruments:** Sound is produced by the vibration of a string or chord. Representation of these can be found in many sculptures and murals of olden days, as for example, in the Bharhut and Sanchi Stupa, the reliefs of Amaravati and so on. Bowed instruments are usually used as an accompaniment to vocal music and are referred to as Geetanuga.
    - The **Kamaicha is a bowed lute** played by the manganiars of west **Rajasthan**. The whole instrument is one piece of wood, the spherical bowl extending into a neck and fingerboard; the resonator is covered with leather and the upper portion with wood. There are four main strings and a number of subsidiary ones passing over a thin bridge. **Hence statement 1 is correct.**
  - **The Sushira Vadya - Wind instruments:** Sound is produced by blowing air into an hollow column. The pitch of the note is determined by controlling the air passage and the melody is played by using the fingers to open and close the in the instrument. The simplest of these instruments is the flute. There is **reference in the Vedas to an instrument-the Venu** which was used as an accompaniment to chanting and recitation. There is also mention of a kind of a flute called the **Nadi.** The flute has a variety of names like Venu, Vamsi, Bansuri, Murali and so on in the north, and Pullankuzhal, Pillankarovi and Kolalu in the south.
  - **The Avanaddha Vadya - Percussion instruments:** Sound is produced by striking the animal skin which has been stretched across an earthern or metal pot or a wooden barrel or frame. The main categories are-Oordhwaka, Ankya, Alingya and the waisted or the Damaru family of drums.
  - **The Ghana Vadya - Solid instruments:** The earliest instruments invented by man are said to be the Ghana Vadya. Once constructed, this variety of instrument do not need special tuning prior to playing. In early times these instruments were the extension of the human body such as sticks, clappers, rods,

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etc. and were also closely related to objects of utility in daily life such as pots and pans, jhanj, falams, etc.

- **Nautanki** a traditional theatre form and is usually associated with **Uttar Pradesh.** Naggada is a large, resounding drum used in North India as accompaniment by folk performers in nautanki, or traditionally, to announce the arrival of royalty. It is played using drumsticks. Its **South Indian counterpart is the chhenda** that produces the sharp percussion that accompanies the Kathakali dance. **Hence statement 2 is correct.**

Q 60.B

- Recently the Assam Government has notified **Dihing Patkai as the 7th National Park of the state.**
- The Dehing Patkai National Park which falls under the Jeypore Range and Soraipung Range of Dibrugarh and Tinsukia districts, covers an area of 234.26 sq km.
- It is known all over for its rainforest, the last remaining stretches of **Assam Valley Tropical Wet Evergreen Forests.**
- **The park is home to elephants, hoolock gibbons, golden cat, clouded leopard, and other animals.**
- Till date, 47 mammal species, 47 reptile species, and 310 butterfly species have been recorded in the park kown for its rich biodiversity.
- Dehing Patkai National Park harbors the largest stretch of lowland rainforests in India
- Dehing-Patkai Wildlife Sanctuary was declared as Dehing Patkai Elephant Reserve under Project Elephant.
- Dehing-Patkai as a potential wildlife sanctuary was identified in late 1980s during a primate survey as "Upper Dehing Wildlife Sanctuary". Subsequently during a study on white-winged wood duck in early 1990s, it was discovered as a globally important site for this duck and recommended to be upgraded to "Upper Dehing National Park.
- **Hence option (b) is the correct answer.**

Q 61.A

- **The Dimasa tribe** is an indigenous, ethno-linguistic community **living in Assam and Nagaland.** The Dimasa peoples are the inhabitants of North Cachar Hills Autonomous District Council (now Dima Hasao), Karbi Anglong Autonomous District Council, Cachar District, Nagaon District of Assam and the Dhansiri region of Nagaland State. The Dimasas ruled this vast tract with Dimapur (now in Nagaland state) as their capital. Dimasa tribal community is said to be a component part of the Bodo-Kachari clan. **Hence pair 1 is correctly matched.**
- **The Apatani** are a tribal group of people living in the **Ziro valley in the Lower Subansiri district of Arunachal Pradesh in India.** have a distinct civilization with systematic land use practices and rich traditional ecological knowledge of natural resources management and conservation, acquired over the centuries through informal experimentation. Their wet rice cultivation system and their agriculture system are extensive even without the use of any farm animals or machines. So is their sustainable social forestry system. UNESCO has proposed the Apatani valley for inclusion as a World Heritage Site for its "extremely high productivity" and "unique" way of preserving the ecology. They have two major festivals – Dree and Myoko. **Hence pair 2 is correctly matched.**
- **The Nyishi** are the largest ethnic group in **Arunachal Pradesh in north-eastern India.** In Nyishi, their traditional language, Nyi refers to "a man" and the word shi denotes "a being", which combined together refers to a civilized human being. They are spread across seven districts of Arunachal Pradesh. **The Nyishi language belongs to the Sino-Tibetan family**, however, the origin is disputed. Polygyny is prevalent among the Nyishi. It signifies one's social status and economical stability and also proves handy during hard times like clan wars or social huntings and various other social activities. **Hence pair 3 is not correctly matched.**

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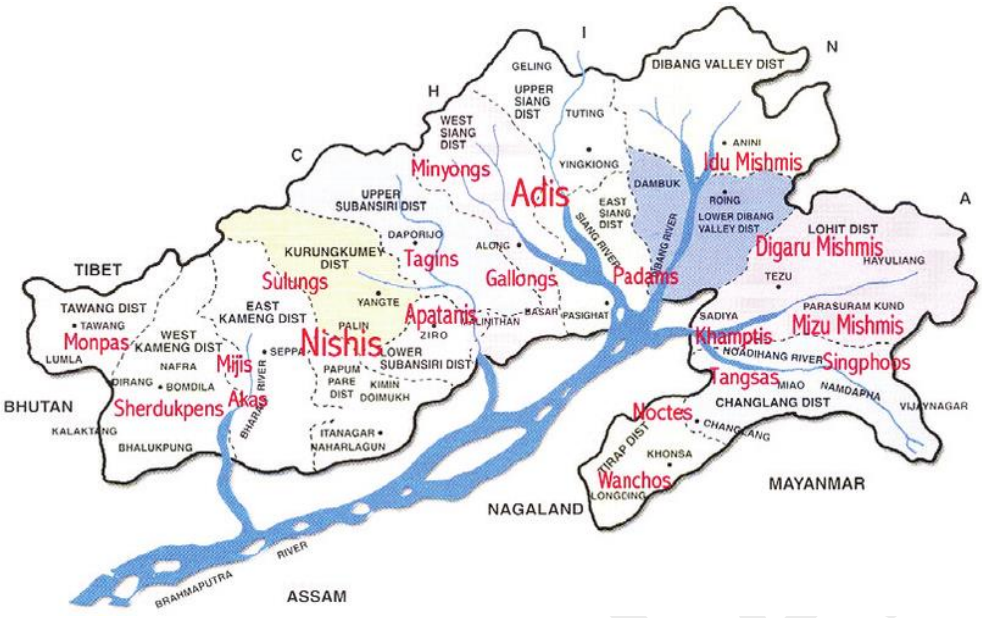

Q 62.C

- **Article 31C. Saving of laws giving effect to certain directive principles:** Notwithstanding anything contained in Article 13, no law giving effect to the policy of the State towards securing all or any of the principles laid down in Part IV shall be deemed to be void on the ground that it is inconsistent with, or takes away or abridges any of the rights conferred by Article 14 or Article 19 and ***no law containing a declaration that it is for giving effect to such policy shall be called in question in any court on the ground that it does not give effect to such policy*.** Provided that where such law is made by the Legislature of a State, the provisions of this Article shall not apply thereto unless such law, having been reserved for the consideration of the President, has received his assent.
  - **In Keshavanand Bharati Sripadgalvaru v. State of Kerala, 1973**, the Supreme Court held **that only the above provisions in italics and underlined be invalid**.
  - **The above provisions of Article 31C were inserted in the Constitution through the 25th Constitutional Amendment Act, 1971. Hence pair 2 is correctly matched.**
- In the Kesavananda Bharati case (1973), the Supreme Court upheld the validity of the 24th Amendment Act (1971) and stated that Parliament is empowered to abridge or take away any of the Fundamental Rights. At the same time, it laid down a new doctrine of the 'basic structure' (or 'basic features') of the Constitution. It ruled that the constituent power of Parliament under Article 368 does not enable it to alter the 'basic structure' of the Constitution.
  - Again, the Parliament reacted to this judicially innovated doctrine of 'basic structure' by enacting the 42nd Amendment Act (1976). This Act amended Article 368 and declared that there is no limitation on the constituent power of Parliament and no amendment can be questioned in any court on any ground including that of the contravention of any of the Fundamental Rights. **Hence pair 3 is correctly matched.**
  - However, **the Supreme Court in the Minerva Mills case (1980) invalidated this provision** as it excluded judicial review which is a 'basic feature' of the Constitution.
- **The 52nd Amendment Act of 1985** provided for the disqualification of the members of Parliament and the state legislatures on the ground of defection from one political party to another. For this purpose, it made changes in four Articles of the Constitution and added a new Schedule (the Tenth Schedule) to the Constitution.
  - One of the provisions of the Tenth Schedule inserted by the 52nd Amendment Act was **"bar of jurisdiction of courts"** i.e. any question regarding disqualification arising out of defection is to be decided by the presiding officer of the House. Originally, the act provided that the decision of the presiding officer is final and cannot be questioned in any court. However, in **Kihoto Hollohan case (1993),** the Supreme Court declared this provision as unconstitutional on the ground that it seeks to take away the jurisdiction of the Supreme Court and the high courts. **Hence pair 1 is correctly matched.**

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Q 63.C

- Recently, Nature Communications has published a report studying flash droughts between 1980 and 2015. It has mapped the global distribution, trends, and drivers of flash drought occurrence. is the rapid onset or intensification of drought and is set in motion by lower-than-normal rates of precipitation, accompanied by abnormally high temperatures, winds, and radiation. Together, these changes in weather can rapidly alter the local climate.
- **Statement 1 is correct:** Flash droughts have been defined in two ways, either as a short-lived yet severe event where soil moisture completely depletes or a multi-week period of rapid intensification toward drought. It is sometimes also defined as a rapidly developing drought event.
- The highest frequency of flash drought occurrence were primarily found within the tropics and subtropics: They include a large portion of Brazil, the Sahel, the Great Rift Valley, India etc.
- **Statement 2 is correct:** As per the report, India is a hotspot for flash droughts and this could have major implications on the country's crop production and **majority of the flash drought events in India occurred during the monsoon season- especially across the central, northwest and northeast regions of the country- primarily between May and September from 1980-2015.**

Q 64.C

- **The escape velocity of celestial bodies like planets and their natural satellites (the moon for us) is the minimum velocity that has to be achieved by an object, to escape the gravitational sphere of influence (pull or force or attraction) of the celestial body.** At this velocity, the sum of the gravitational potential energy and kinetic energy of the system will be equal to zero. **Hence, statement 1 is correct.**
- The escape velocity equation is obtained by equating the kinetic energy of an object with mass m and traveling with a velocity of v and gravitational potential energy of the same object.
  - $v_c=\sqrt{2GMr}$
    - vc is the escape velocity
    - G is the universal gravitational constant
    - M is the mass of the celestial object whose gravitational pull has to be superseded
    - r is the distance from the object to the center of mass of the body to be escaped
- From this relation, it is obvious that escape velocities for larger planets (or celestial bodies) is greater since it will have a larger mass compared to smaller planets with a lower mass (having less gravity in comparison). At the surface of the Earth, if atmospheric resistance could be disregarded, escape velocity would be about 11.2 km (6.96 miles) per second. The velocity of escape from the less massive Moon is about 2.4 km per second at its surface. **Hence, statement 3 is correct.**
- Escape velocity does not depend on the mass of the object **(that is supposed to escape). Hence, statement 2 is not correct.**

Q 65.A

- Electrical resistivity is the reciprocal of electrical conductivity. It is the measure of the ability of a material to oppose the flow of current. Metals are good conductors of electricity. Hence, they have low resistivity. The insulators like rubber, glass, graphite, plastics, etc. have very high resistivity when compared to the metallic conductors.
- **The resistivity of conductors increases with rise in temperature.** As the temperature of the conductor increases, the average speed of the electrons acting as the current carriers increases. This in result increases the number of collisions and the average time of collisions decreases with temperature. Since the resistivity is inversely proportional to the average time, therefore resistivity increases. **Hence, option (a) is correct.**
- **In semiconductors, resistivity decreases with rise in temperature.** As the temperature increased, the numbers of free charge carriers are increased due to breaking of more and more covalent bonds. Hence, its conductivity increases and resistivity decreases with rise in temperature.

Q 66.A

- Known as the festival of festivals, **Thrissur Pooram** has a tradition of more than 200 years. This spectacular event was started by Sakthan Thampuran, the erstwhile ruler of Kochi. Held on the **Moolam asterism in the Malayalam month of Medam (April-May) post-harvest,** festival-related events take place at the Vadakkumnathan temple situated in the heart of Thrissur town and the adjoining Thekkinkadu ground. **Hence statement 2 is not correct**
- The festival **witnesses the participation of 10 temples, and the event represents the geographic divisions of Paramekkavu and Thiruvambadi.** They will compete in their respective presentations of richly caparisoned elephants, a traditional orchestra called panchavadyam, the swift and rhythmic

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changing of brightly colored and sequined parasols called kudamattom and the dazzling fireworks in the early morning hours are the festival highlights. **Hence statement 1 is correct.** The Ten participants of the Pooram are the Thiruvambady Bhagavathi and Paramekkavu Bhagavathi, Nethilakkavu Bhagavathi, Karamukku Bhagavathi, Ayyanthole Bhagavathi, Laloor Bhagavathi, Choorakkattukavu Bhagavathi, Chembukkavu Bhagavathi, Panamukkumpally Sastha, Kanimangalam Sastha. The processions and rituals of each of these deities follow a very strict itinerary, scheduled in such a way that the tempo of the Pooram celebrations - 36 hrs non-stop - is maintained without any loss of energy.

- The goddesses of **Thiruvambadi and Paramekkavu are believed to be taking part in the pooram. Though the presiding deity at Thiruvambadi is Lord Krishna, it is the second in importance deity of Goddess Bhagavati that takes part in the pooram.**

Q 67.A

- In September 2021, **the RBI prohibited merchants from storing customer card details on their servers with effect from January 01, 2022, and mandated the adoption of card-on-file (CoF) tokenisation as an alternative to card storage. Hence, statement 1 is correct.**
- Tokenisation refers to replacement of actual credit and debit card details with an alternate code called the "token", which will be unique for a combination of card, token requestor and device.
- A tokenised card transaction is considered safer as the actual card details are not shared with the merchant during transaction processing. Customers who do not have the tokenisation facility will have to key in their name, 16-digit card number, expiry date and CVV each time they order something online.
- **One can tokenise multiple cards with the same merchant, or tokenise the same card with multiple merchants. In case of multiple cards, each will have to be tokenised with each card having unique token. A single token cannot be used for multiple cards. Hence, statement 3 is not correct.**
- Tokenisation of card is absolutely free, and can be availed by anyone. **Currently, tokenisation is applicable only to domestic cards.** International cards are not covered by this guidelines. **Hence, statement 2 is correct.**

Q 68.D

- The Small Finance Bank (SFB) is a private financial institution intended to further the objective of financial inclusion by primarily undertaking **basic banking activities of acceptance of deposits and lending to un-served and underserved sections including small business units, small and marginal farmers, micro and small industries and unorganised sector entities,** but without any restriction in the area of operations, unlike Regional Rural Banks or Local Area Banks.
- Small Finance Banks were created pursuant to the announcement in Union Budget 2014-2015.
- RBI issued the Guidelines on 27 November 2014 for licensing and regulation of SFBs.
- The concept of small finance banks was also one of the recommendations in the 2009 Report - A Hundred Small Steps - of the **Committee on Financial Sector Reforms headed by Dr. Raghu Ram Rajan.**
- **Resident individuals/professionals with 10 years** of experience in banking and finance and companies and societies owned and controlled by residents will be **eligible to set up small finance banks.**
- Existing Non-Banking Finance Companies (NBFCs), Micro Finance Institutions (MFIs), and Local Area Banks (LABs) that are owned and controlled by residents can also opt for conversion into small finance banks.
- **The minimum capital for SFBs is prescribed at Rs. 100 crore** with an initial contribution of 40% coming from the promoters, which over a period of 12 years, have to be reduced to 26%.
- Foreign Investment is permitted as in the case of other private sector commercial banks.
- After the small finance bank reaches the net worth of Rs.500 crore, listing of its shares on a stock exchange will be mandatory within three years of reaching that net worth.
- **SFBs are full fledged banks in contrast to payments banks** created around the same time. Hence, **they are subject to all prudential norms and regulations of RBI as applicable to existing commercial banks like maintenance of Cash Reserve Ratio (CRR) and Statutory Liquidity Ratio (SLR). Hence statement 1 is correct**.
- The target group of SFBs are similar to that of Local Area Banks. They are **required to extend 75 per cent of its Adjusted Net Bank Credit (ANBC) to the sectors eligible for classification as priority sector lending(PSL)** by the Reserve Bank. At least 50 per cent of its loan portfolio should constitute loans and advances of upto Rs. 25 lakh. **Hence statement 2 is correct.**

Q 69.A

- **First Anglo-Burma War (1824-26):** The attempts of the English to develop trade relations with Burma had failed. They, therefore, picked up border disputes as pretexts for war with a view to putting pressure

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on Burma. The crisis erupted when Lord Amherst came to India as governor-general of the Company in 1823.

- The English were desirous for a war against Burma as it could serve their Imperial designs well.
- The English attacked Burma from two sides. One army proceeded on land-route of the north-east. The other army attacked Rangoon from the side of the sea.
- **The Burmese started negotiations for peace when the English were only 72 km away from Yandabo, the capital of Burma. The treaty of Yandabo was signed by the two parties in February 1826. Its terms were**
  - Burma gave up all its claims over Assam, Cachar and Jaintia.
  - It surrendered Arakan and Tenasserim to the English.
  - It accepted Manipur as an independent state
  - It agreed to pay a war indemnity of rupees one crore to the English.
  - Agreed to enter into a commercial treaty with the British
  - Both accepted each other as friends, agreed to depute and receive each other's ambassadors

- **First Anglo-Afghan War (1839-42):** India was considered a critical component of the British Empire. Its protection was therefore paramount. Given Afghanistan's important strategic position between India and the Russian Empire, the East India Company was keen to ensure that a pro-British emir was on the throne there.
  - In 1837, fearful of a Russian invasion of India via the Khyber and Bolan Passes, the British sent an envoy to the Afghan capital, Kabul, to gain the support of Emir Dost Mohammed Khan.
  - Initially, the emir was in favour of an alliance with the British. But when they refused to help him regain Peshawar - seized by the Sikhs in 1834 - he prepared to talk to the Russians, who also sent an envoy to Kabul.
  - This led Lord Auckland, the Governor-General of India, to conclude that Dost Mohammed was anti-British. During the negotiations, a Russian-backed Persian (Iranian) army besieged the western Afghan city of Herat. An invasion of India via Afghanistan by foreign powers now seemed a firm possibility. The British therefore decided to replace Dost Mohammed with a former ruler, Shah Shuja, who was considered more amenable.
  - **As a result of this war, Dost Mohammed fled from Kabul and Emir Shah Shuja was duly installed on the Afghan throne but Shah Shuja was unacceptable to Afghans and British having learned their lesson arrived at a settlement with Dost Mohammed by which they evacuated Kabul and recognized him as the independent ruler of Afghanistan.**
- **First Anglo-Sikh War (1845-46):** The war was precipitated by mutual suspicions and the turbulence of the Sikh army.
  - Relations with the British had already been strained by the refusal of the Sikhs to allow the passage of British troops through their territory during the First Anglo-Afghan War (1839–42). Having determined to invade British India under the pretext of forestalling a British attack, the Sikhs crossed the Sutlej River in December 1845.
  - This was seen as an aggressive move by the British and declared war.
  - **The war concluded with the Treaty of Lahore in 1846. Its terms were**
    - War indemnity of more than 1 crore rupees to be given to British.
    - Jalandhar Doab was annexed to British dominions
    - A British resident was to be appointed at Lahore.
    - The strength of the Sikh army was reduced.
    - Daleep Singh was recognized as ruler under Rani Jindan as regent.
- **Hence, option (a) is the correct answer.**

Q 70.C

- **Indian Bronze Sculpture:**
  - Many standing Buddha images with a right hand in Abhaya mudra were cast in North India, particularly Uttar Pradesh and Bihar, during the Gupta and Post-Gupta periods, i.e., between the fifth, sixth and seventh centuries. The sangha or the monk's robe is wrapped to cover the shoulders which turns over the right arm, while the other end of the drapery is wrapped over the left arm. Eventually, the pleats are held by the extended hand of the same arm. The figure appears youthful and proportionate in comparison with the Kushana style.
  - In the typical **bronze from Dhanesar Khera, Uttar Pradesh**, the folds of the **drapery are treated as in the Mathura style**, i.e., in a series of drooping down curves.
  - **Sarnath-style bronzes** have foldless drapery. The outstanding example is that of the Buddha image at **Sultanganj, Bihar**, which is quite a monumental bronze figure.

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- **Vakataka bronze** images of the Buddha **from Phophnar, Maharashtra**, are **contemporary with the Gupta period bronzes.** They show the **influence of the Amaravati style** of Andhra Pradesh in the third century CE and at the same time, there is a significant change in the draping style of the monk's robe. Buddha's **right hand in Abhaya mudra** is free so that the drapery clings to the right side of the body contour. The result is a continuous flowing line on this side of the figure. **Hence option (c) is the correct answer.**
  - At the level of the ankles of the Buddha figure, the drapery makes a conspicuous curvilinear turn, as it is held by the left hand. The additional importance of the Gupta and Vakataka bronzes is that **they were portable** and monks carried them from place to place for the purpose of individual worship or to be installed in Buddhist viharas. In this manner, the refined classical style spread to different parts of India and to Asian countries overseas.

Q 71.C

- **According to Article 51 A, it shall be the duty of every citizen of India:**
  - to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;
  - to cherish and follow the noble ideals that inspired the national struggle for freedom;
  - **to uphold and protect the sovereignty, unity and integrity of India;**
  - to defend the country and render national service when called upon to do so;
  - to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities and to renounce practices derogatory to the dignity of women;
  - to value and preserve the rich heritage of the country's composite culture;
  - to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures:
  - to develop scientific temper, humanism and the spirit of inquiry and reform;
  - to safeguard public property and to abjure violence;
  - to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement; and
  - to provide opportunities for education to his child or ward between the age of six and fourteen years. This duty was added by the 86th Constitutional Amendment Act, 2002.
- The exact phrase, "to uplhold and protect the sovereignty, unity and integrity of India" is mentioned anywhere in the Constitution except in Fundamental Duties. **Hence option (c) is the correct answer.**

Q 72.D

- While taxation is a primary source of income for the government, it also earns some recurring income other than tax, which is called non-tax revenue. While sources of tax revenue consist of few but bulk direct and indirect taxes, the number of sources of non-tax revenue are very large with wide variance in the quantum of collections per source?
- There are several services provided by the government that creates the sources or components of non-tax revenue. Here are examples of some components of non tax revenues are as follows:
- **Interest**: It comprises of interest of loans given to states and union territories for reasons like non-plan schemes (e.g. flood control) and planned schemes with maturity period of 20 years such as modernisation of police forces and also interest on loans advanced to Public Sector Enterprises (PSEs), Port Trusts and other statutory bodies etc.
- **Dividends and profits:** This includes dividends and profits from PSEs as well as the transfer of surplus from Reserve Bank of India (RBI).
- **Petroleum license:** This includes fees to get the exclusive right for exploration in a particular region. Such fees may be in the form of royalty, share of the profit earned from contact areas during a specific period, **Petroleum Exploration License (PEL) fee** or Production Level Payment (PLP).
- **Power supply fees:** This includes fees received by Central Electricity Authority from the supply of power under the Electricity (Supply) Act.
- **Fees for Communication Services:** This mainly includes the **license fees from telecom operators on account of spectrum usage** charges that licensed Telecom Service Providers pay to the Department of Telecom (DoT).
- **Broadcasting fees:** It includes license fee paid by DTH operators, commercial TV services, commercial FM radio services etc.
- **Road, Bridges usage fees:** This includes **receipts through toll plazas** on account of the usage of national highways, permanent bridges etc.

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- **Examination fees:** This includes fees paid by applicants of competitive examinations conducted by the Union Public Service Commission (UPSC) and Staff Selection Commission (SSC) to fill up vacancies in government offices.
- **Fee for police services:** This includes fee received for supplying central police forces to state government's and other parties like Central Industrial Police Force (CISF) to industries etc.
- **Sale of stationery, gazettes etc:** This includes receipts under 'Stationery and Printing' relating to the sale of stationery, gazettes, government publications, etc.
- **Fee for Administrative Services:** This includes fees received for providing services like **audit services**, issuance of passport, visa etc.
- **Receipts relating to Defence Services:** This relates to services provided through Canteen Stores Department (CSD).
- **Hence option (d) is the correct answer.**

Q 73.C

- **Varkari Panth or Varkari Sampradaya:**
  - The followers in this community are devotees of Lord Vishnu, in his manifestation as Vithoba and the worship is centered on Vithoba's temple at Pandharpur in Maharashtra.
  - The sect strictly avoids alcohol and tobacco.
  - Their annual pilgrimage Vari undertakes interesting events. In the Vari, the Varkaris carry the padukas of the saints in palkis from Samadhi to Pandharpur.
  - Events Ringan and Dhava are held during pilgrimage. Under Ringan, a sacred horse runs through the rows of pilgrims, who try catching the dust particles kicked off and smear their head with the same. Prominent figures under this sect include Jnaneshwar (1275-1296), Namdev (1270-1350), Eknath (1533-1599) and Tukaram (1598-1650).
- **Pushti Marg Sampradaya:** It is a Vaishnav sect founded by Vallabhacharva around 1500 AD. Their philosophy is that the ultimate truth is one and only one Brahm. The devotion is based on pure love for Lord Krishna. All followers are expected to do Seva to their personal idol of Krishna.
- **Nimbarka Sampradaya:** Also known as the Hamsa sampradaya and Kumara Sampradaya, the followers worship Radha and Krishna deities.
- **Dashanami Sanyasis:** They are associated with the Advaita Vedanta tradition and are the disciples of Adi Shankaracharya. They are also called "Dash Nam Sanyasi" as they are further divided into 10 groups. **They are the followers of Shiva.**
- **Hence option (c) is the correct answer.**

Q 74.B

- **The National Bank for Financing Infrastructure and Development Act was enacted by Parliament. NBFID is set up as a corporate body with an authorised share capital of one lakh crore rupees. Hence statement 1 is correct.**
- Objective:
- **To directly or indirectly lend, invest, or attract investments for infrastructure projects located entirely or partly in India. Hence statement 2 is correct.**
- Facilitating the development of the market for bonds, loans, and derivatives for infrastructure financing
- **Functions of NBFID:**
- Extending loans and advances for infrastructure projects.
- Taking over or refinancing such existing loans.
- Attracting investment from private sector investors and institutional investors for infrastructure projects.
- Organising and facilitating foreign participation in infrastructure projects.
- Facilitating negotiations with various government authorities for dispute resolution in the field of infrastructure financing.
- Providing consultancy services in infrastructure financing
- **Source of Funds:**
- It may raise money in the form of loans or otherwise both in Indian rupees and foreign currencies, or secure money by the issue and sale of various financial instruments including bonds and debentures.
- **It may borrow money from the central government, Reserve Bank of India (RBI), scheduled commercial banks, mutual funds, and multilateral institutions such as the World Bank and Asian Development Bank. Hence statement 3 is not correct.**
- Initially, the central government will own 100% shares of the institution which may subsequently be reduced up to 26%.
- NBFID will be governed by a Board of Directors. The Chairperson will be appointed by the central government in consultation with RBI.

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Q 75.A

- Scientists at the Indian Agricultural Research Institute are in the process of developing resilient and high-yield rice varieties using such gene editing techniques, which have already been approved by many countries.
- The newer technologies such as Site Directed Nuclease (SDN) 1 and 2 aim to bring precision and efficiency into the breeding process using gene editing tools such as CRISPR.
- SDN technologies can create specific and targeted mutations in the genome of a plant, in order to obtain plants with improved characteristics.
- **Site-Directed Nuclease technology can be used to precisely remove undesirable traits in plants** – such as anti-nutrients or allergens, in order to reduce environmental pollution or to enhance the nutritional value of a crop, for instance in maize. It can also modify certain existing characteristics in a plant to respond to consumer needs such as enhanced shelf-life and improved taste or texture, for instance in tomatoes. **Hence, statement 1 is correct.**
- **The SDN 1 and SDN 2 categories of genome-edited plants do not contain any foreign DNA** when they are taken to the open field trials. SDN-1 and SDN-2 do not use recombinant DNA, do not lead to the insertion of foreign DNA. As such, they do not produce new plant varieties that fall under the scope of the GMO legislation. **Hence, statement 2 is not correct.**

Q 76.C

- **National Stock Exchange of India (NSE)** in collaboration with Bengaluru-based startup Chainflux has launched NSE-Shine, **a blockchain platform for gold bullion. The platform will provide a data framework for bullion bar integrity for settlement of Gold derivatives contracts. Hence statement 1 is correct.**
- The India Gold Policy Centre (IGPC) at the Indian Institute of Management - Ahmedabad (IIM-A) and the Indian Bullion and Jewellers' Association (IBJA) have worked closely with the NSE and Chainflux to develop this blockchain-based platform.
- The features on the platform would help create a bullion repository for all bullion bars produced by NSE-approved refiners as per the NSE Refiner Standards (NRS).
- This platform and the NRS is an initial step to create a digital, tamper-proof code of practice for maintaining bullion integrity.
- **The Blockchain platform and the NRS is an initial step to create a digital, tamper-proof code of practice for maintaining bullion integrity. Hence statement 2 is correct.**

Q 77.C

- Considering the strategic nature of air-breathing technology which has the potential to bring a significant shift in the launch vehicle design, worldwide efforts are on to develop the technology for air-breathing engines.
- **In an air-breathing scramjet engine, air from the atmosphere is rammed into the engine's combustion chamber at a supersonic speed of more than Mach two. In the chamber, the air mixes with the fuel to ignite supersonic combustion but the cruiser's flight will be at a hypersonic speed of Mach six to seven. So it is called supersonic combustion ramjet or Scramjet. Hence, statement 2 is not correct.**
- As in ramjets, **a scramjet relies on high vehicle speed to compress the incoming air forcefully** before combustion (hence ramjet), but whereas a ramjet decelerates the air to subsonic velocities before combustion using shock cones, a scramjet has no shock cone and slows the airflow using shockwaves produced by its ignition source in place of a shock cone. This allows the scramjet to operate efficiently at extremely high speeds. **Hence, statement 1 is correct.**
- The Defence Research and Development Organisation (DRDO) recently performed a major technological feat when it flew a cruise vehicle at a hypersonic speed of Mach six for 20 seconds. **The DRDO called the cruise vehicle Hypersonic Technology Demonstrator Vehicle (HSTDV). The centrepiece of the HSTDV was the indigenously developed air-breathing scramjet engine, which formed the HSTDV's propulsion system. Hence, statement 3 is correct.**

Q 78.D

- -In the last 10 years, India has witnessed an exponential growth in payment systems and a significant shift in payment preference. The shift in payment preference in the last 10 years is evidenced by the fact that the volume of paper clearing, which comprised 60% of total retail payments in the financial year (FY) 2010-11, shrunk to 3% in the FY 2019-20.

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- This striking shift in payment preference has been due to the creation of robust electronic payment systems such as RTGS, NEFT and ECS has facilitated seamless real-time or near real-time fund transfers.
- The advent of innovative electronic payment systems that leverage technology that can be used through the internet and mobile, has led to electronic payment systems dominating the retail payment space with around 61% share in terms of volume and 75% share in terms of value during the FY 2019-20
- **Large-value credit transfers through RTGS dominate the overall digital payments landscape in 2019-20, accounting for over 80% of the total value of digital transactions. Hence, statement 1 is not correct,**
- In terms of volume, however, credit transfers via multiple channels such as UPI, NEFT and Immediate Payment Service (IMPS) were the leaders. In the retail segment, **UPI has the highest volume of transactions at 125186 lakh during 2019-20 period. Hence, statement 2 is not correct.**
- In the case of card payments, the value of debit card transactions registered a growth of 35.6% as against 21.1% for credit cards in March 2020.

Q 79.A

- **China is building a bridge across the Pangong Tso** within its territory connecting the North and South Banks which will significantly reduce the time for moving troops and equipment between the two sides. This is part of the overall infrastructure build-up by China on its side of the Line of Actual Control (LAC) to address deficiencies it noticed since the standoff began in May 2020. **The bridge is being constructed more than 20 km east of Finger 8 on the lake's north bank – India says Finger 8 denotes the LAC.** The bridge site is just east of Khurnak Fort in Rutog county where the PLA has frontier bases. There is a frontier defense company at Khurnak Fort, and a water squadron further east at Banmozhang.
- Pangong Tso or Pangong Lake is an endorheic lake spanning eastern Ladakh and West Tibet. **It has a land-locked basin separated from the Indus River basin by a small elevated ridge. Hence statement 1 is not correct**
- The Pangong Tso Lake is also known as the 'high grassland lake. **It is the highest saltwater lake in the world.** Although the lake is saline, it gets frozen during wintertime. There are no fishes inhabiting the lake but beautiful exotic and migratory birds and a few crustaceans inhabit the lake during summers. **Hence statement 2 is correct**
- **The lake is not recognized as a Wetland of International Importance under the Ramsar Convention yet. Hence statement 3 is not correct**

Q 80.A

- **The Brihadisvara temple at Tanjavur marks the greatest achievement of the Chola architects**. Known in the inscriptions as **Dakshina Meru, the construction of this temple was inaugurated by the Chola King, Rajaraja I (985-1012 C), and consecrated by his own hands.**
- Rajaraja named the temple after himself and called it, Rajarajeswaram. The King installed a massive Shivalinga in the sanctum sanctorum. For the longest time, even during the rule of the Pandyans who built the Amman shrine in the temple complex, the temple was known by the name given by its builder. It is said that years later, the deity came to be associated with the name T**hiru Peruvudaiyar (the 'Great Lord' in Tamil) and Brihat-Ishvar was its Sanskrit translation.**
- Standing on the highest point in the area, this architectural marvel was built without the use of mortar or any other adhesive. The inscriptions record that the **chief architect** who executed the plan envisaged by the ruler was **Raja Raja Perunthachan** (perum meaning big and thachan meaning carpenter). **Hence, statement 1 is correct.**
- The temple and its components are situated on the east-west axis. The plan of the Brihadeswara Temple consists of the **garbhagriha surmounted by the vimana and connected with the ardhamandapa, followed by the mahamandapa, mukhmandapa and the Nandi shrine**. Within the temple courtyard (prakara), are other shrines dedicated to Lord Ganesa, Subrahmanya, Goddess Brihannayaki, Chandikesvara, and Lord Nataraja. There is also evidence of shrines dedicated to the ashta dikapalas out of which only a few remain.
- Within a double-walled enclosure, the Brihadeswara is a typical Dravidian-style temple entered from the east through massive gateways called gopurams. This temple specifically has two gopurams, the first one called the **Keralantakan Gopuram was built to commemorate Rajaraja's victory over the Cheras**. This gopuram has five stories and is comparatively less ornate than the second one. A few meters away, the second gopuram called the **Rajarajan gopuram** pierces the wall (Krishnan Raman Tiruch-churru-maligai) which runs along the four sides of the temple, enclosing the temple courtyard. **Hence, statement 2 is not correct.**

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- **Beyond the gopuram is the Nandi mandapa**, a later addition to the temple. **Built by the Nayaka rulers**, it houses the massive monolithic Nandi. The ceiling of the Nandi mandapa is ornately decorated with paintings of the Nayaka rulers.
- **Following the Nandi mandapa, is the mukhamandapa** and the mahamandapa. The Mukha mandapa is entered by a flight of steps. The Mukha mandapa houses the Bhairava sculpture which must have been a part of the ashta parivara shrines of the temple complex. Beyond this structure is the pillared hall called the mahamandapa.
- Further ahead, is the **ardhamandapa** which is connected to the garbhagriha. Beyond this is the two-storied garbhagriha or the sanctum sanctorum with the massive linga in the center.

Q 81.B

- Paintings of neolithic-chalcolithic period made on granite rocks can be seen in many places in Karnataka and Andhra at sites such as Kupgal, Piklihal, and Maski. Many of the pictures were made by crayoning (rubbing dry colors on to the stone surface) rather than painting. There are also many rock bruisings, made by hammering or pecking the motifs onto the rock surface. **Hence, statement 1 is correct.**
- Cattle form the dominating theme in these paintings. **Hence, statement 2 is correct.**
- These paintings also have people standing in a chain-like formation, usually interpreted as dancers. Other less frequently occurring motifs include the elephant, tiger, deer, buffalo, birds, footprints, and abstract designs. **Hence, statement 3 is correct.**

Q 82.D

- Excess grant is the money given to the government when the already allocated money for expenditure for that year does not turn out to be enough and extra money is sought.
- The demand for excess grants is provided for **under Article 115** of the Indian Constitution. This demand for extra money or excess grants is made when the expenditure has been **incurred after a financial year has expired.**
- **The Comptroller and Auditor General (CAG) brings the demand for an excess grant to the notice of Parliament through a report on the appropriation account. The excess grant is then examined by the Public Accounts Committee,** which makes recommendations regarding their regularisation in its report to Parliament i.e. it is voted by the Lok Sabha after the financial year. Before the demands for excess grants are submitted to the Lok Sabha for voting, they must be approved by the Public Accounts Committee of Parliament.
- **Exceptional Grant (Article 116):** It is granted for a special purpose and forms no part of the current service of any financial year. **Hence option (d) is the correct answer.**

Q 83.D

- The National Mission for Enhanced Energy Efficiency (NMEEE) is one of the eight national missions under the National Action Plan on Climate Change (NAPCC). It aims to strengthen the market for energy efficiency through implementation of innovative business models in the energy efficiency sector.
- NMEEE consist of four initiatives to enhance energy efficiency in energy intensive industries which are as follows:
- **Perform Achieve and Trade Scheme (PAT)** - Implementing a market assisted compliance mechanism to accelerate implementation of cost effective improvements in energy efficiency in large energy-intensive industries.
- **Market Transformation for Energy Efficiency (MTEE)** - Accelerating the shift to energy efficient appliances in specific application through innovative measures to make the products more affordable.
- **Energy Efficiency Financing Platform (EEFP)** - Facilitating Financial Institutions to invest in Energy Efficiency Projects and Programmes.
- **Framework for Energy Efficient Economic Development (FEEED)** - Developing fiscal instruments to leverage financing for Energy Efficiency through risk mitigation:Partial Risk Guarantee Fund for Energy Efficiency (PRGFEE) andVenture Capital Fund for Energy Efficiency (VCFEE) to promote energy efficiencyNational Energy Conservation Award and Painting Competition.
- **Hence option (d) is the correct answer.**

Q 84.A

- **Mezzanine Financing:**
  - Mezzanine financing is defined as a financial instrument which is a mix of debt & equity finance. **It is a debt capital that gives the lender the rights to convert to an ownership or equity interest in the company.** Mezzanine finance is listed as an asset on company's balance sheet. As it is treated as

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equity in a company's balance sheet, it allows the company to access other traditional sources of finance.
  - In the hierarchy of creditors, mezzanine finance is subordinate to senior debt but ranks higher than equity.
  - The return on mezzanine finance is higher in relation to debt finance but lower than equity finance.
  - It is also available quickly to the borrower with little or no collateral.
  - The concept of mezzanine financing is just catching up in India. Mezzanine financing is used mainly for small and medium enterprises, infrastructure and real estate. ICICI Venture's Mezzanine Fund was the first fund in India to focus on mezzanine finance.
  - **When a company goes out of business, the senior debt holders get paid first by liquidating the company's assets. If there are no assets remaining after the senior debt gets paid off, mezzanine lenders lose out.**
  - **Hence option (a) is the correct answer.**
- **Invoice Financing:**
  - **Invoice financing is a way for businesses to borrow money against the amounts due from customers**. When businesses sell goods or services to large customers, such as wholesalers or retailers, they usually do so on credit. This means that the customer does not have to pay immediately for the goods that it purchases. The purchasing company is given an invoice that has the total amount due and the bill's due date. When businesses sell goods or services to large customers, such as wholesalers or retailers, they usually do so on credit. . However, offering credit to clients ties up funds that a business might otherwise use to invest or grow its operations. To finance slow-paying accounts receivable or to meet short-term liquidity, businesses may opt to finance their invoices.
- **Senior Debt:**
  - **Senior debt is borrowed money that a company must repay first if it goes out of business**. Each type of financing has a different priority level in being repaid if the company goes out of business. If a company goes bankrupt, the issuers of senior debt, which are often bondholders or banks that have issued revolving credit lines, are most likely to be repaid, followed by junior or subordinated debt holders and hybrid debt instruments such as convertible notes, then preferred stock holders. Common stock holders are last on the list.
- **Debt Financing:**
  - **Debt financing occurs when a firm raises money for working capital or capital expenditures by selling debt instruments to individuals and/or institutional investors**. In return for lending the money, the individuals or institutions become creditors and receive a promise that the principal and interest on the debt will be repaid.

Q 85.C

- The Securities and Exchange Board of India (SEBI) approved the framework for a gold exchange as well as for vault managers, facilitating trading in securities tied to the gold.
- Th**e instruments representing gold will be called Electronic Gold Receipts (EGRs) and will be identified as securities in Demat form. EGRs will have the trading, clearing, and settlement features akin to any other securities in India's exchange fabric. Hence statement 1 is correct**
- The denomination for trading the EGRs and conversion of EGRs into gold would be decided by the exchanges with the approval of SEBI. **Existing stock exchanges under the framework of SEBI will be allowed to provide the platform for trading of EGRs. Hence statement 2 is correct**
- SEBI-accredited vault managers would be responsible for the storage and safekeeping of gold deposits, creation of EGRs, withdrawal of gold, grievance redressal, and periodic reconciliation of physical gold with the records of the depository. The vault manager would have to have a net worth of at least Rs. 50 crore.
- EGR holders, at their discretion, could withdraw the underlying gold from the vaults after surrendering the EGRs, since EGRs have a perpetual validity

Q 86.B

- **Tolkappiyam** refers to the five-fold division of lands called **five thinais**. Those are named **Kurinji, Mullai, Maruam, Neydal, and Palai.**
  - **Kurinji** refers to the **mountains and adjoining lands. Hence pair 1 is correctly matched.**
  - Mullai refers to the forests and adjoining pastoral landscape.
  - **Marudam** refers to the **agricultural plains** and adjoining lands. **Hence pair 2 is correctly matched.**
  - **Neydal** refers to the **sea and adjoining lands.**
  - Palai refers to a desert landscape.

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Q 87.A

- Prafulla Chaki and Khudiram Bose of Anushilan Samiti tried to assassinate the notorious district judge, Mr. Kingsford, by throwing bombs at the carriage in which Kingsford was supposed to travel, but he was not in the carriage, and two British women were killed.
  - Prafulla committed suicide when he was about to be arrested by the Police. Khudiram was arrested and tried for the murder of the two women and sentenced to death in August 1908.
- **Based on tips from informants, the Anushilan group's hideouts were raided and Aurobindo Ghosh, his brother Barin Ghosh as well as other Bengali nationalists of the Anushilan Samiti were arrested and charged with "Conspiracy" or "waging war against the King" - the equivalent of high treason and punishable with death by hanging.**
- **This case was formally known as Emperor vs Aurobindo Ghosh and others or Alipore Bomb Case or Alipore Conspiracy Case as it was tried in the Alipore sessions court of Calcutta.**
- The trial took nearly one year to complete and came to a close in 1909. Aurobindo Ghosh and 16 others were acquitted. Hemachandra Kanungo Das, Barin Ghosh, Ullaskar Dutt, and a number of others were convicted. **Hence, option (a) is the correct answer.**

Q 88.B

- Atal Innovation Mission (AIM) NITI Aayog recently released the **second edition of – 'Innovations for You'- a compendium of innovations focused on agriculture featuring 70 startups supported by Atal incubation Centers (AICs) of AIM** and 'The Ingenious Tinkerers' – a compendium on the innovations on technology featuring 41 innovations from Atal Tinkering Lab (ATL) of India. The 'Innovations For You' is a **compilation of successful innovations by the entrepreneurial minds of India solving problems of present for future,** while 'The Ingenious Tinkerers' is a compilation of the top innovations created by young student innovators who participated in the ATL Marathon - which invites school students to address a problem that they see or face on a day-to-day basis. The 'Innovations For You' in its **second edition book is a compilation of 70 Ag-Tech startups, incubated at Atal Incubation Centres spread across the country. These startups are leveraging frontier technologies such as AI, IoT, ICT, and others to provide socially relevant solutions to problems of modern farming. Hence option (b) is the correct answer**

Q 89.A

- Recently, Prime Minister led tributes to the **freedom fighter Rani Velu Nachiyar.** She was **the first Indian queen to fight the British colonialists,** Velu Nachiyar was the only daughter of the King of Ramnad in Tamil Nadu born in 1730. In absence of any brothers, she was brought up akin to a prince with training in martial warfare and weaponry. Her strong commitment to fighting colonialism was remarkable and personified "Nari Shakti". Velu Nachiyar was successful in recapturing her kingdom after staying in Dindigul post her husband's death and hence becoming the queen of Sivagangai again. **During her reign, the queen also formed a women's only army called Udaiyaal. She formed an alliance with Hyder Ali against the British Colonizers. Hence option (a) is the correct answer**
- **Anjalai Ammal** was a social worker and reformer from Kadalur. She started her political activism in 1921 with the Non-Cooperation Movement and later took part in the Neil Statue Satyagraha, Salt Satyagraha, and Quit India Movement. Her courage was so well known that Mahatma Gandhi called her South India's Jhansi Rani.
- **Kitturu Rani Chenamma** was born in Belgaum, Karnataka in 1778 to the Lingayat community. She became the queen of Kittur district through her marriage to Raja Mallasaraja and had a son by him. Unfortunately, the son did not survive. This was before the codification of Doctrine of Lapse by the British, who then used paramountcy, a flimsy excuse along the lines of the future doctrine, to grab Kittur. Rani Chenamma had sent a letter to Mountstuart Elphinstone, Lieutenant-Governor of the Bombay Presidency in a plea for her adopted son whom she wanted to inherit the throne. When her request was turned down and the British administration advanced upon Kittur, they met with fierce resistance from its queen in 1824. Rani Chenamma not only won the war but imprisoned two British officials who were released in exchange of the promise of non-interference.
- **Abbakka Chowta** inherited her throne through a matrilineal system of inheritance followed by her community called Aliyasantana. Prior to her succession she was married to Lakshmappa Arasa, the King of Banga, and had three daughters. However, she continued to remain at Ullal, her capital. Rani Abbakka was quite aware of the Portuguese threat and sought a truce at first**. However, she refused to pay any tribute to the Portuguese administrators. Since she had forged alliances with different kingdoms**

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and her outreach cut through sectarian divide amongst her citizens, the Portuguese held back at first. In 1527 they attacked Ullal several times in succession in vain. In the end, they only managed to capture it for a short time. The escaped queen returned the favor by raiding the Portuguese camp at night and slaughtering many.

Q 90.A

- Punnapra-Vayalar Uprising was a workers' uprising led by the Communist Party in the Princely State of Travancore, British India, in October 1946.
- The revolt is named after two of the places involved. It started under the leadership of the undivided Communist Party of India (CPI) in a place called Punnapra on 23 October and lasted for 10 days until it culminated in Vayalar.
- **Workers' agitations led by communist trade unions for labor rights during that period had culminated in a massive rebellion against the tyrannical rule of the King and his Diwan (Prime Minister), C. P. Ramaswami Iyer.**
  - A large number of workers who participated in that rebellion against the rule of Ramaswami Iyer were killed by the army of the Diwan in October 1946.
- The uprising saw an army of the poorest of the poor, armed with tools such as areca nut staves, come face to face with armed police.
- The agitation was a tipping point for the laborers, who were being harassed by the then ruler of the region, C.P. Ramaswamy Aiyer. Aiyer, the diwan of Travancore, had the full backing of the British government and had just implemented oppressive governance reforms
- The uprising resulted in the displacement of Iyer and the establishment of an independent Travancore the year next.
- **Hence, option (a) is the correct answer.**

Q 91.D

- The Himalayas range is one of the youngest mountain ranges in the world and consists of many of the highest peaks in the World. Some of the important Peaks include:
  - **Nanga Parbat**, also known locally as Diamer, is the ninth-highest mountain in the world at 8,126 m above sea level. Located in Gilgit-Baltistan, **Nanga Parbat is the western anchor of the Himalayas**. Nanga Parbat lies South of the Indus River. The Indus Gorge is formed by the Indus River as it skirts the Nanga Parbat massif.
  - **Mount K2** (Godwin-Austen/Chhogori) has an elevation of 8,611 meters above sea level. K2, which is **situated in the north-eastern Karakoram Range**, is located in the Gilgit–Baltistan region. K2 is known as the Savage Mountain as it is extremely difficult to scale the peak. It has one of the highest fatality- to summit rate.
  - **Nanda Devi** is the second-highest mountain in India, after Kangchenjunga, and the highest located entirely within the country (Kangchenjunga is on the border of India and Nepal). It is the 23rd-highest peak in the world. It is located in **Chamoli, Uttarakhand, India**. The surrounding Nanda Devi National Park was declared a UNESCO World Heritage Site in 1988.
  - Mount Kanchenjunga (also spelled as Kangchenjunga) **is located at the border of Nepal and Sikkim (India)**. It is the third highest mountain in the world with an elevation of 8,586 meters above sea level. It is called 'five treasures of snow' after its five peaks. Kanchenjunga Main is one of the three peaks of Kanchenjunga located in India.
  - Namcha Barwa is a mountain in the Tibetan Himalaya. The traditional definition of the Himalaya extending from the Indus River to the Brahmaputra would make it the **eastern anchor of the entire mountain chain**, and it is the highest peak of its own section as well as Earth's easternmost peak over 7,600 metres. Namcha Barwa is in an isolated part of southeastern Tibet rarely visited by outsiders. It stands inside the Great Bend of the Yarlung Tsangpo River as the river enters its notable gorge across the Himalaya.
  - **Hence option (d) is correct answer**.

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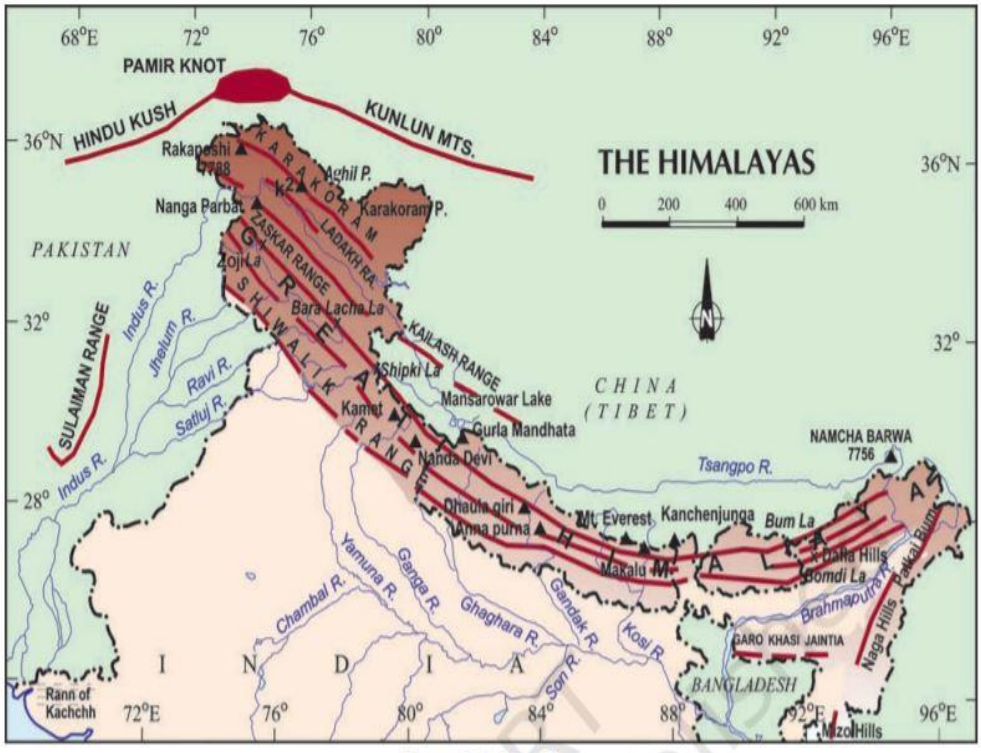

Figure 2.1 : Himalayas

Q 92.B

- Recently, the **Food and Agriculture Organisation (FAO)** published the report titled **The State of the World's Land and Water Resources for Food and Agriculture (SOLAW 2021)**. As per the report, human pressure on land, soils and freshwater have intensified, pushing these resources to their production limits. In addition climate change has increased pressure on rain-fed and irrigation production over and above the environmental consequences of decades of unsustainable.
- **The objective of SOLAW 2021** is to build awareness of the status of land and water resources, highlighting the risks, and informing on related opportunities and challenges, also underlining the essential contribution of appropriate policies, institutions and investments. It also highlights the major risks and trends related to land and water and presents means of resolving competition among users and generating multiple benefits for people and the environment.

Q 93.C

- Recently, the Centre has amended the Legal Metrology (Packaged Commodities) Rules 2011 for enhanced protection of Consumer Rights.
- To safeguard the interests of consumers, **the Department of Consumer Affairs under the Ministry of Consumer Affairs, Food and Public Distribution has omitted Rule 5 of the Legal Metrology (Packaged Commodities), Rules 2011** defining the Schedule II prescribing the pack sizes of various types of commodities. A new provision has been introduced to indicate the unit sale price on pre-packed commodities, which will allow easier comparison of the prices of the commodities at the time of purchase. **Hence, statement 3 is not correct.**
- **The month and year in which the commodity is manufactured or pre-packed or imported were required to be mentioned in the package.** For reducing the compliance burden and removing the ambiguity of declaration of the date on pre packed commodities for consumers, the declaration has now been required to the month and year in which the commodity is manufactured for the pre-packed commodities. **Hence, statement 1 is correct.**
- The provisions of declarations of MRP has been simplified by removing illustration and providing for **making the mandatory declaration of MRP in Indian currency inclusive of all taxes.** This has allowed the manufacturer/packer/importer to declare the MRP on the pre-packed commodities in a simplified manner. **Hence, statement 2 is not correct.**

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Q 94.A

- **The Indian Currency Committee or Fowler Committee was a government committee appointed by the British-run Government of India on 29 April 1898 to examine the Indian currency situation.**
- Until 1892, silver was the metal on which Indian currency and coinage had largely been based. In 1892, the Government of India announced its intent to "close Indian mints to silver" and, in 1893, it brought this policy into force.
- The committee recommended that the official Indian rupee be based on the gold standard and the official exchange rate of the rupee be established at 15 rupees per British sovereign, or 1 shilling and 4 pence per rupee. The British Imperial Government accepted the recommendations of the commission in July 1899.
- **Hence, option (a) is the correct answer.**

Q 95.B

- India, the farming community uses the mixed crop-livestock farming system — cattle, goats, fowl are the widely held species.
- Livestock production provides increased stability in income, food security, transport, fuel, and nutrition for the family without disrupting other food-producing activities.
- Today, livestock sector alone provides alternate livelihood options to over 70 million small and marginal farmers including landless labourers. A significant number of women also find employment in the livestock sector.
- **Poultry accounts for the largest share with 58 percent,** cattle and buffalos 24%, sheep and goats 16%, pigs 1%, and others 1%. **Hence statement 1 is not correct.**
  - Other animals which include camels, asses, horses, ponies and mules are in the lowest rung.
- **Performance of the Indian dairy sector** over the last three decades has been quite impressive.
  - Milk production in the country has increased by about ten times between 1951-2016. **Hence statement 2 is correct**.
  - This can be attributed mainly to the successful implementation of **'Operation Flood'.** It is a system whereby all the farmers can pool their milk produced according to different grading (based on quality) and the same is processed and marketed to urban centers through cooperatives. In this system the farmers are assured of a fair price and income from the supply of milk to urban markets.
- **Fisheries:**
  - The fishing community regards the water body as 'mother' or 'provider'.
  - In India, after the progressive increase in budgetary allocations and the introduction of new technologies in fisheries and aquaculture, the development of fisheries has come a long way.
  - **Presently, fish production from inland sources contributes about 65 per cent to the total value of fish production and the balance 35 per cent comes from the marine sector (sea and oceans). Hence statement 3 is not correct.**
  - **Today total fish production accounts for 0.9 per cent of the total GDP.**
  - **In India, West Bengal, Andhra Pradesh, Kerala, Gujarat, Maharashtra and Tamil Nadu are major fish producing states.**
  - A large share of fishworker families are poor. Rampant underemployment, low per capita earnings, absence of mobility of labour to other sectors and a high rate of illiteracy and indebtedness are some of the major problems fishing community face today.
  - Even though women are not involved in active fishing, about 60 per cent of the workforce in export marketing and 40 per cent in internal marketing are women. There is a need to increase credit facilities through cooperatives and SHGs for fisherwomen to meet the working capital requirements for marketing.

Q 96.A

- **Article 243D of Indian Constitution** provides for the reservation of seats for scheduled castes and scheduled tribes in every panchayat (i.e., at all the three levels) in proportion of their population to the total population in the panchayat area. Further, the state legislature shall provide for the reservation of offices of chairperson in the panchayat at the village or any other level for the SCs and STs.
  - It provides for the reservation of not less than one-third of the total number of seats for women (including the number of seats reserved for women belonging the SCs and STs).

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- Not less than one-third of the total number of offices of chairpersons in the panchayats at each level shall be reserved for women.
- It also authorises the legislature of a state to make any provision for reservation of seats in any panchayat or offices of chairperson in the panchayat at any level in favour of backward classes.

- **Article 243M. Part IX not to apply to certain areas:** It does not apply to the states of Nagaland, Meghalaya and Mizoram and certain other areas. These areas include,
  - The scheduled areas and the tribal areas in the states
  - The hill area of Manipur for which a district council exists; and
  - Darjeeling district of West Bengal for which Darjeeling Gorkha Hill Council exists.
  - **Reservation of seats (under Article 243D) for the Scheduled caste is not applicable to the State of Arunachal Pradesh.**
  - **Hence option (a) is the correct answer.**

Q 97.B

- Recently, Red Sanders (Red Sandalwood) has fallen back into the **'endangered' category in the International Union for Conservation of Nature's (IUCN) Red List. Hence, statement 1 is not correct.**
- It was classified as 'near threatened' in 2018 and has now joined the 'endangered' list once again in 2021.
- The species, Pterocarpus santalinus, **is an Indian endemic tree species, with a restricted geographical range in the Eastern Ghats.**
- **The species is endemic to a distinct tract of forests in Andhra Pradesh. Hence, statement 2 is not correct.**
- **It is listed under Appendix II of CITES. Hence, statement 4 is correct.**
- The harvest of the tree is also restricted at the state level, but despite this illegal trade continues.
- Red Sanders (Pterocarpus santalinus) known for their **rich hue and therapeutic properties,** are high in demand across Asia, particularly in China and Japan, for use in **cosmetics and medicinal products as well as for making furniture, woodcraft and musical instruments. Hence, statement 3 is correct.**
- Its popularity can be gauged from the fact that a tonne of Red Sanders costs anything between Rs 50 lakh to Rs 1 crore in the international market.

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Q 98.D

- As per extant FDI Policy, **100% FDI is allowed in the following sectors through the automatic route**:
  - Floriculture, Horticulture, Cultivation of Vegetables & Mushrooms under controlled conditions
  - Development and **Production of seeds** and planting material
  - **Animal Husbandry (including breeding of dogs)**, Pisciculture, Aquaculture, Apiculture
  - Services related to agro and allied sectors
- Further, **100% FDI** is also permitted in the tea sector including **Tea plantations**, Coffee plantations, Rubber plantations, Cardamom plantations, **Palm Oil plantations** and Olive oil tree plantations through the automatic route.
- **Hence option (d) is the correct answer.**

Q 99.D

- Under Hindu Law, an Hindu Undivided Family (HUF) is a family which consists of all persons lineally descended from a common ancestor and includes their wives **and unmarried daughters. Hence option (d) is the correct answer.**
  - **An HUF cannot be created under a contract, it is created automatically in a Hindu Family.**
- It is treated as a **'person'** under section 2(31) of the Income-tax Act, 1961. HUF is a separate entity for the purpose of assessment under the Act.
  - Jain and Sikh families even though are not governed by the Hindu Law, but they are treated as HUF under the Income-tax Act.
- **HUF has its own Permanent Account Number (PAN) and files tax returns independent of members.**

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Q 100.A

- During Mughal rule, the Government officials were required to perform civil and military duties simultaneously. Akbar wanted to evolve a unique system of regulating these imperial services and the result was the promulgation of the Mansabdari system. Akbar introduced this Mansabdari system in 1571 with the help of Shahbaz Khan. All the gazetted imperial officers of the state were styled as Mansabdar's. **Hence, statement 1 is correct.**
- Under the Mansabdari system, all holders of government offices held ranks (mansabs) comprising two numerical designations: zat which was an indicator of position in the imperial hierarchy and the salary of the official (mansabdar), and sawar which indicated the number of horsemen he was required to maintain in service.
- Some mansabdars were paid in cash (naqdi), while the majority were paid through assignments of revenue (jagirs) in different regions of the empire. **Hence, statement 2 is not correct.**
- The office and the privileges of Mansabdars were not hereditary and a mansab's children had to start afresh. **Hence, statement 3 is not correct.**

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